

PROPOSED DEVELOPMENT CONDITIONS

SE 2014-MA-015
December 3, 2014

If it is the intent of the Board of Supervisors to approve Special Exception SE 2014-MA-015, located at Tax Map 71-4 ((1)) 34, to permit the development of a funeral chapel pursuant to Sect. 3-204 of the Fairfax County Zoning Ordinance, staff recommends that the Board condition the approval by requiring conformance with the following development conditions:

1. This Special Exception is granted for and runs with the land indicated in this application and is not transferable to other land.
2. This Special Exception is granted only for the purpose(s), structure(s) and/or use(s) indicated on the special exception plat approved with the application, as qualified by these development conditions.
3. This Special Exception is subject to the provisions of Article 17, Site Plans, as may be determined by the Director, Department of Public Works and Environmental Services (DPWES). Any plan submitted pursuant to this special exception shall be in substantial conformance with the special exception (SE) Plat entitled "6839 Braddock Road" prepared by Sanie Consulting Group, LLC, dated March 12, 2014, and revised through December 2, 2014, consisting of 10 sheets, and these conditions. Minor modifications to the approved special exception may be permitted pursuant to Par. 4 of Sect. 9-004 of the Zoning Ordinance.
4. Hours of Operation - The hours of operation for funeral services shall be limited to Monday through Thursday, from 9:00 a.m. to 4:00 p.m.; Friday, from 9:00 a.m. to 11:30 a.m.; and Saturday, from 8:00 a.m. to 5:00 p.m. Employees shall be allowed on-site two hours before and after these times. Additionally, one employee may remain on-site at any time that a body is on the premises.
5. Services Limitations - No embalming or cremation shall occur on the premises.
6. Seating and Employee Limitations - The funeral chapel shall be limited to a maximum of 90 seats and four employees.
7. Funeral Processions – The internal drive shall be used for the formation of funeral processions. Braddock Road shall not be used for the formation of processions.
8. Parking - Parking spaces shall meet the geometric design standards in the Public Facilities Manual, as determined by DPWES. A parking tabulation shall be submitted to DPWES as part of the final site plan review to demonstrate compliance with the parking provisions of the Fairfax County Zoning Ordinance for the proposed use.

9. Right-of-Way - The applicant shall dedicate a one-foot wide area of right-of-way along the Braddock Road frontage as depicted on the plat. This area shall be conveyed in fee simple to the Board of Supervisors at no cost to the County.
10. Stormwater Management - Stormwater management shall be provided as generally depicted on the SE Plat and as approved by DPWES. A detailed evaluation and analysis of stormwater detention requirements shall be provided on the site plan. Best Management Practice (BMP) requirements shall be met through tree box filters and a bioretention facility. Final determination regarding the adequacy of these measures to meet stormwater management requirements will be subject to review and approval by DPWES and will be made at the site plan phase. If it is determined that additional BMP measures are necessary, the applicant shall provide such measures in substantial conformance with the SE Plat. Provided those additional measures are in substantial conformance with the SE Plat, a special exception amendment (SEA) application shall not be required.
11. Parking Lot Island - The interior parking lot island shall be designed as a bioretention facility, in consultation with DPWES and in accordance with Public Facilities Manual standards, and shall include an underdrain system, if required. The area shall be planted with trees, shrubs, grasses, and forbs in consultation with DPWES/UFMD. Curb stops and/or curbs shall be designed and installed around the landscape island to allow stormwater to flow into the area while protecting plant materials from vehicle intrusions.
12. Architectural Treatment of Building - The building façade shall be generally consistent in character, materials, architectural style, and quality with the illustrative elevations provided on Sheet 5 of the SE Plat.
13. Energy – In furtherance of the County’s Green Building policy, at a minimum, the funeral chapel shall incorporate lighting controls with occupancy sensors to reduce energy consumption; low-flow plumbing fixtures; building materials and components containing recycled materials; landscaping with native plant species to reduce or eliminate irrigation and potable water consumption; materials with low Volatile Organic Compounds (VOC) limits to reduce or eliminate off-gassing; composite wood and agrifiber products that do not contain any added urea-formaldehyde resins; and specification of carpet meeting the requirements of the Green Label Program and hard flooring meeting the FloorScore standards. The measures installed shall be documented by a LEED-Certified professional and reported to the Environment and Development Review Branch of DPZ prior to the issuance of a Non-RUP.
14. Archaeological Investigations - At least 30 days prior to any land disturbing activities on the Property, the Applicant shall conduct a Phase I archaeological survey on the area to be disturbed and provide the results of such study to the Cultural Resources Management and Protection Section of the Fairfax County Park Authority (CRMP)

for review and approval. The survey shall be conducted by a qualified archaeological professional approved by CRMP. No land disturbance activities shall be conducted until this survey is submitted to CRMP. If the Phase I survey concludes that additional Phase II archaeological testing of the area to be disturbed is warranted, the Applicant shall complete said testing and provide the results to CRMP. If the Phase II survey concludes that additional Phase III evaluation and/or recovery is warranted, the Applicant shall also complete said work in consultation and coordination with CRMP, however that process shall not be a precondition of site plan approval but rather shall be carried out in conjunction with site construction. Within 30 days of the completion of any cultural resource studies, the applicant shall provide a copy of archaeology reports, field notes, photographs, and artifacts to the Fairfax County Park Authority CRMP.

15. Landscaping - The quality and quantity of landscaping provided shall be in substantial conformance with the SE Plat. The exact number, size, and spacing of trees and other plant materials shall be submitted at the time of final site plan review and shall be subject to the review and approval of UFMD.
16. Native Species Landscaping - All landscaping provided shall be native to the Middle Atlantic region to the extent feasible and non-invasive as determined by UFMD.
17. Invasive Species Management Plan - An invasive species management plan shall be submitted as part of the first and all subsequent site plan submissions detailing how the invasive and undesirable vegetation will be removed and managed. The detailed invasive species management plan shall include the following information:
 - a. Undesirable and invasive plant species to be suppressed and managed;
 - b. Areas of undesirable and invasive plants, which shall be clearly identified on the landscape or tree preservation plan;
 - c. Recommended government and industry method(s) of management, such as hand removal, mechanical equipment, and chemical control. The applicant shall identify the potential impacts of the recommended method(s) on the surrounding trees and vegetation not targeted for suppression/management and the protection measures chosen for the non-targeted trees and vegetation. As an example, if mechanical equipment is proposed in a save area, the applicant shall specify the potential impacts to trees identified for preservation and the methods proposed to reduce these impacts;
 - d. Disposal methods for the targeted species;
 - e. Information regarding the timing of treatments for all methods, to include hand removal, mechanical equipment removal, or chemical treatments. The Plan shall specify the beginning and end of each treatment by season and specify the proposed frequency of treatments per season. If chemical control is recommended, treatments shall be performed by or under the direct supervision of a Virginia Certified Pesticide Applicator or Registered Technician and under the general supervision of the Project Arborist;
 - f. Areas of potential reforestation and recommended reforestation methods;

Monthly monitoring reports shall be provided to DPWES/UFMD and SDID staff.

The management program shall be continued until bond release; the release of the Conservation Deposit; or prior to release if targeted plant(s) appear to be eliminated based on documentation provided by the Project Arborist and following an inspection by UFMD staff.

18. Tree Preservation - The applicant shall submit a Tree Preservation Plan and Narrative as part of the first and all subsequent site plan submissions. The preservation plan and narrative shall be prepared by a Certified Arborist or a Registered Consulting Arborist, and shall be subject to the review and approval of UFMD.

The tree preservation plan shall include a tree inventory that identifies the location, species, critical root zone, size, crown spread and condition analysis percentage rating for all individual trees located within the tree save area living or dead with trunks 10 inches in diameter and greater (measured at 4½ feet from the base of the trunk or as otherwise allowed in the latest edition of the Guide for Plant Appraisal published by the International Society of Arboriculture) and 25 feet outside of the proposed limits of clearing in the undisturbed area, and within 10 feet of the proposed limits of clearing in the area to be disturbed. All trees inventoried shall be tagged in the field so they can be easily identified. If permission is not allowed from the offsite property owner to tag trees, it shall be noted on the tree preservation plan by providing written documentation between the applicant and the offsite property owner. The tree preservation plan shall provide for the preservation of those areas shown for tree preservation; those areas outside of the limits of disturbance shown on the SE Plat; and those additional areas in which trees can be preserved as a result of final engineering. The tree preservation plan and narrative shall include all items specified in PFM 12-0507 and 12-0509. Specific tree preservation activities that will maximize the survivability of any tree identified to be preserved, such as crown pruning; root pruning; mulching; fertilization; compost tea; Cambistat; radial mulching; supplemental watering; and prophylactic borer treatments, shall be included in the plan.

19. Tree Preservation Walk-Through - The Applicant shall retain the services of a Certified Arborist or Registered Consulting Arborist, and shall have the limits of clearing and grading marked with a continuous line of flagging prior to the walk-through meeting. During the tree-preservation walk-through meeting, the applicant's Certified Arborist or Registered Consulting Arborist shall walk the limits of clearing and grading with an UFM representative to determine where adjustments to the clearing limits can be made to increase the area of tree preservation and/or to increase the survivability of trees at the edge of the limits of clearing and grading, and such adjustment shall be implemented. Trees that are identified as dead or dying may be removed as part of the clearing operation. Any tree that is so designated shall be removed using a chain saw and such removal shall be accomplished in a manner that avoids damage to surrounding trees and associated

understory vegetation. If a stump must be removed, this shall be done using a stump-grinding machine in a manner that causes as little disturbance as possible to adjacent trees and associated understory vegetation and soil conditions.

20. Limits of Clearing and Grading - The Applicant shall conform strictly to the limits of clearing and grading as shown on the SE Plat, subject to allowances specified in these proffered conditions and for the installation of utilities and/or trails as determined necessary by the Director of DPWES, as described herein. If it is determined necessary to install utilities and/or trails in areas protected by the limits of clearing and grading as shown on the SE Plat, they shall be located in the least disruptive manner necessary as determined by UFMD. A replanting plan shall be developed and implemented, subject to approval by UFMD for any areas protected by the limits of clearing and grading that must be disturbed for such trails or utilities.

21. Tree Preservation Fencing - All trees shown to be preserved on the tree preservation plan shall be protected by tree protection fencing. Tree protection fencing in the form of four (4) foot high, fourteen (14) gauge welded wire attached to six (6) foot steel posts driven eighteen (18) inches into the ground and placed no further than ten (10) feet apart or super silt fence to the extent that required trenching for super silt fence does not sever or wound compression roots, which can lead to structural failure and/or uprooting of trees, shall be erected at the limits of clearing and grading as shown on the demolition and Phase I & II erosion and sediment control sheets, as may be modified by the "Root Pruning" condition below.

All tree protection fencing shall be installed after the tree preservation walk-through meeting but prior to any clearing and grading activities, including the demolition of any existing structures. Three (3) days prior to the commencement of any clearing, grading, or demolition activities, but subsequent to the installation of the tree protection devices, UFMD shall be notified and given the opportunity to inspect the site to ensure that all tree protection devices have been correctly installed. If it is determined that the fencing has not been installed correctly, no grading or construction activities shall occur until the fencing is installed correctly, as determined by UFMD.

22. Root Pruning - The Applicant shall root prune, as needed to comply with the tree preservation requirements of these development conditions. All treatments shall be clearly identified, labeled, and detailed on the erosion and sediment control sheets of the site plan submission. The details for these treatments shall be reviewed and approved by UFMD, accomplished in a manner that protects affected and adjacent vegetation to be preserved, and may include, but not be limited to, the following:

- a. Root pruning shall be done with a trencher or vibratory plow to a depth of 18-24 inches;
- b. Root pruning shall take place prior to any clearing and grading, or demolition of structures;
- c. Root pruning shall be conducted with the supervision of a Certified Arborist or Registered Consulting Arborist; and

- d. An UFMD representative shall be informed when all root pruning and tree protection fence installation is complete.

23. Site Monitoring - During any clearing of trees or vegetation on the applicant's property, a representative of the applicant shall be present to monitor the process and ensure that the activities are conducted as conditioned and as approved by UFMD. The Applicant shall retain the services of a Certified Arborist or Registered Consulting Arborist to monitor all construction and demolition work and tree preservation efforts in order to ensure conformance with all tree preservation development conditions and UFMD approvals. The monitoring schedule shall be described and detailed in the Landscaping and Tree Preservation Plan, and reviewed and approved by UFMD.

24. Landscape Pre-Inspection Meeting - Prior to installation of plants to meet requirements of the approved landscape plan, the contractor/developer shall coordinate a pre-installation meeting on site with the landscape contractor and a representative of UFMD. Any proposed changes to the planting locations, size of trees/shrubs, and any proposed plant substitutions for species specified on the approved plan shall be reviewed at this time and must be approved prior to planting. The installation of plants not specified on the approved plan and not previously approved by UFMD may require submission of a revision to the landscape plan or removal and replacement with approved material.

Field location of planting material, when required by the approved plan, shall be reviewed at the pre-installation meeting. The landscape contractor shall stake proposed individual planting locations in consultation with the contractor/developer prior to the pre-installation meeting for review by UFMD staff. Stakes shall be adjusted, as needed, during the course of the meeting as determined by UFMD staff based on discussion with the contractor/developer and the landscape contractor.

25. Soil Remediation - Soils in which gravel is removed shall be restored and remediated to support plant growth to the satisfaction of UFMD, to include the incorporation of adequate organic materials and the creation of adequate void spaces for air and water. Remediation of these soils shall include the removal of all gravel, the aeration of the soils to a depth of 18 inches through tilling or air excavation, and the incorporation of at least 12 inches of high quality topsoil mixed with organic matter into the remaining soils, with the exception of within the critical root zone of Tree #34, which is shown to be preserved, in order to minimize impacts to roots. Tilling is not allowed within the critical root zone of trees to be preserved, although air excavation is allowed with the concurrence of UFMD. If air excavation is used, it shall be accomplished with an Air-Spade® or similar tool. Once soils have been completely tilled/aerated and amended, UFMD shall be notified and given the opportunity to inspect the amendments prior to planting. Gravel removal and soil amendment shall occur and be accomplished by hand within areas of the critical root zone of Tree #34 where landscaping is shown to occur on the landscape plan, as determined in the field and in consultation with UFMD.

26. Dumpster - The trash dumpster shall be screened on all four sides by an enclosure, which shall be compatible in terms of color, style, and construction with the funeral chapel. Enclosure doors and walls shall consist of materials which are opaque and fully screen the dumpster. The enclosure and dumpster shall remain closed when not in use. All trash must be held within the dumpster.
27. Barriers - Barriers along the eastern property line may be constructed wholly or in part of welded metal see-through fencing, at the applicant's option.
28. Signage - Signage shall be in conformance with Article 12 of the Zoning Ordinance.
29. Lighting - All exterior, security, pedestrian and/or other incidental lighting shall be in conformance with Part 9 of Article 14 of the Zoning Ordinance.
30. Posting - A copy of these development conditions shall be posted conspicuously in the funeral chapel near a public entrance.

The above proposed conditions are staff recommendations and do not reflect the position of the Board of Supervisors unless and until adopted by that Board.

This approval, contingent on the above noted conditions, shall not relieve the applicant from compliance with the provisions of any applicable ordinances, regulations, or adopted standards. The applicant shall be himself responsible for obtaining the required Non-Residential Use Permit through established procedures, and this Special Exception shall not be valid until this has been accomplished.

Pursuant to Section 9-015 of the Zoning Ordinance, this special exception shall automatically expire, without notice, thirty (30) months after the date of approval unless the use has been established or construction has commenced and been diligently prosecuted. The Board of Supervisors may grant additional time to establish the use or to commence construction if a written request for additional time is filed with the Zoning Administrator prior to the date of expiration of the special exception. The request must specify the amount of additional time requested, the basis for the amount of time requested, and an explanation of why additional time is required.

SPECIAL EXCEPTION PLAT

(SE 2014-0007)

6839 BRADDOCK ROAD
FAIRFAX COUNTY, VA 22003

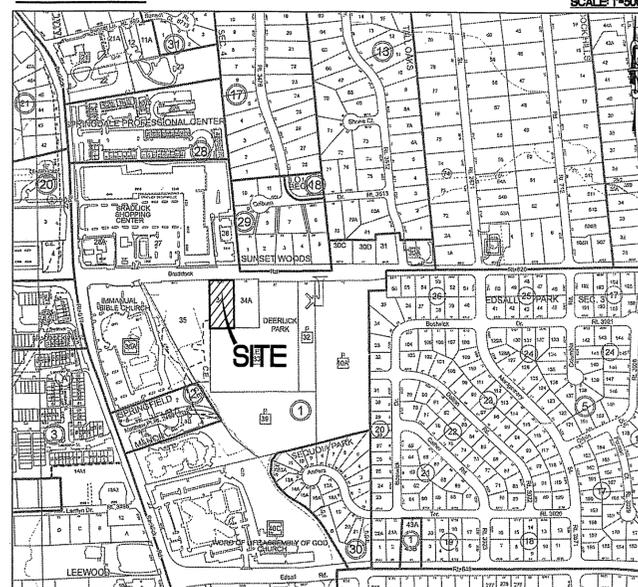
TAX MAP # 0714 01 0034

MASON DISTRICT

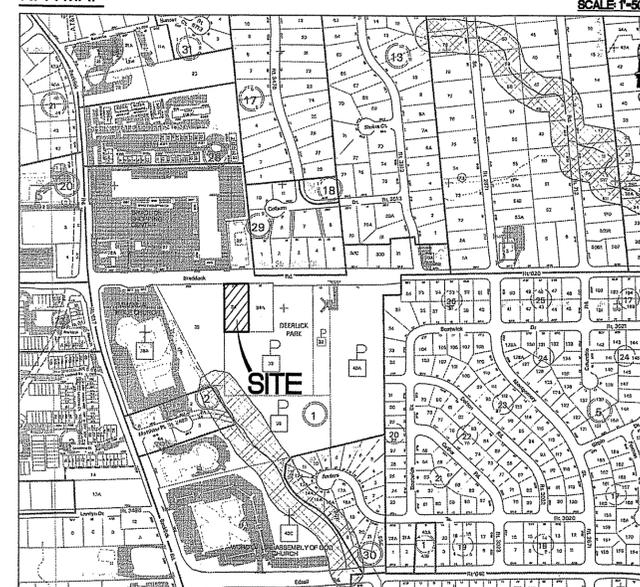
GENERAL NOTES

- THE PROPERTY SHOWN HEREON IS IDENTIFIED ON THE FAIRFAX COUNTY ASSESSMENT MAP # 0714-01-0034. THE PROPERTY IS CURRENTLY ZONED R-2 (RESIDENTIAL 2 DU/AC).
- THE BOUNDARY INFORMATION SHOWN HEREON IS COMPILED FROM DEEDS OF RECORD AND BOUNDARY VERIFICATION SURVEY DONE BY SANIE CONSULTING GROUP, LLC, DATED 09-14-2013. NO TITLE REPORT WAS FURNISHED.
- THE TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED ON ACTUAL FIELD RUN SURVEY DONE BY SANIE CONSULTING GROUP, LLC DATED 09-14-2013. THE TOPOGRAPHY IS SHOWN AT TWO FOOT CONTOUR INTERVALS.
- THERE ARE NO FLOOD PLAINS OR RPA ON THIS SITE.
- THE PROPERTY SHOWN HEREON IS IN THE MASON MAGISTERIAL DISTRICT. IT IS IN THE CAMERON I-3 SANITARY SEWER DISTRICT AND THE CAMERON RUN WATER SHED.
- THIS DEVELOPMENT IS IN CONFORMANCE WITH THE FAIRFAX COUNTY COMPREHENSIVE PLAN AND WILL CONFORM TO THE PROVISIONS OF ALL APPLICABLE ORDINANCES, REGULATIONS AND ADOPTED STANDARDS AND CONDITIONS.
- THE COUNTY OF FAIRFAX IS THE SANITARY SEWER AND PUBLIC WATER SUPPLY AGENCY FOR THIS DEVELOPMENT. THE PROPERTY IS SERVED BY PUBLIC UTILITIES.
- STORM WATER MANAGEMENT AND BEST MANAGEMENT PRACTICES (BMP) FACILITY WILL BE PROVIDED ON SITE IN ACCORDANCE WITH FAIRFAX COUNTY ORDINANCES AS APPROVED BY THE FAIRFAX COUNTY, DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL SERVICES.
- THIS PLAN DOES NOT PURPORT TO SHOW ALL EXISTING UNDERGROUND UTILITIES AND THOSE SHOWN ARE APPROXIMATE. THERE ARE NO KNOWN EXISTING UNDERGROUND UTILITY EASEMENTS HAVING A 25 OR MORE FEET WIDTH ON THE SITE.
- THIS PLAN DOES NOT SHOW UTILITIES. ALL NECESSARY PUBLIC UTILITIES ARE READILY ACCESSIBLE TO THE SITE AND WILL BE EXTENDED BY THE DEVELOPER OR UTILITY COMPANY UNDER SEPARATE APPROVED CONSTRUCTION PLAN. SANIE CONSULTING GROUP, LLC ASSUMES NO RESPONSIBILITY FOR CONSTRUCTION BASED ON THIS PLAN.
- THERE ARE NO KNOWN HAZARDOUS OR TOXIC SUBSTANCES ON THIS SITE. IF ANY SUBSTANCES ARE FOUND, THE METHODS FOR DISPOSAL SHALL ADHERE TO COUNTY, STATE OR FEDERAL LAW.
- THERE ARE NO KNOWN BURIAL SITES OR EXISTING STRUCTURES FOUND ON THIS SITE.
- THE PROPOSED LIMITS OF CLEARING AND GRADING ARE APPROXIMATE AND ARE SUBJECT TO ADJUSTMENT AT THE TIME OF FINAL DESIGN, ENGINEERING AND LOCATION OF PROPOSED UTILITIES.
- ANY AND ALL OFF-SITE GRADING, R.O.W, PARKING, ACCESS & UTILITY CROSSING SHALL BE ALLOWED WITH THE PERMISSION OF ADJACENT OWNERS.
- PARKING WILL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS OF ARTICLE 11 OF THE ZONING ORDINANCE.
- IN ACCORDANCE WITH PARAGRAPH 4 OF SECTION 16-403 OF THE ZONING ORDINANCE, MINOR MODIFICATIONS TO THE SIZES, DIMENSIONS, FOOTPRINTS AND LOCATIONS OF BUILDINGS, PARKING SPACES, SIDEWALKS AND UTILITIES MAY OCCUR WITH FINAL ENGINEERING AND DESIGN. THE ACTUAL SIZE AND THE DESIGN MAY BE MODIFIED. ANY MODIFICATION SHALL NOT REDUCE THE PERIMETER BUILDING SET BACK DIMENSIONS FROM PROPERTY LINES AS SHOWN ON THIS PLAN.
- A ONE (1) FOOT RIGHT OF WAY DEDICATION TO VDOT IS PROPOSED WITH THIS DEVELOPMENT

VICINITY MAP



RPA MAP



SOILS MAP



SOILS DATA

SOIL ID NUMBER	SOIL SERIES NAME	FOUNDATION SUPPORT	SOIL DRAINAGE	EROSION POTENTIAL	PROBLEM CLASS
38B	FAIRFAX LOAM	FAIR - C	GOOD	MEDIUM	I
78B	MEADOWVILLE LOAM	FAIR - W, B	MARGINAL-W	MEDIUM	II

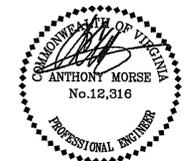
WAIVER/MODIFICATION

DUE TO THE LOT CONSTRAINTS AND LIMITATIONS IN SIZE AND SHAPE, THE FOLLOWING WAIVERS ARE TO BE REVIEWED AND ACTED ON PER THIS APPLICATION:

- WAIVER OF THE SERVICE DRIVE REQUIREMENTS PER Z.O. 9-510, ITEM #1.
- WAIVER OF THE BUILDING SETBACK REQUIREMENTS PER Z.O. 9-510, ITEM #2, AS LISTED:
 - REQUIRED 45 FEET BUILDING SETBACK FROM THE STREET LINE.
 - REQUIRED 40 FEET BUILDING SETBACK FROM THE EAST ADJACENT R-2 ZONING DISTRICT LOT LINE.

SHEET INDEX:

- COVER SHEET
- SPECIAL EXCEPTION DEVELOPMENT PLAT
- OVERALL PLAN AND CORRESPONDENCE
- EXISTING CONDITIONS PLAN
- DETAILS, BUILDING ELEVATIONS AND SITE PHOTOGRAPHS
- LANDSCAPE PLAN
- TREE PRESERVATION PLAN
- EVM AND 10 YEAR TREE CANOPY
- TREE PRESERVATION NOTES
- ADEQUATE OUTFALL ANALYSIS



Date: 12/02/2014

ENGINEER/PLANNER

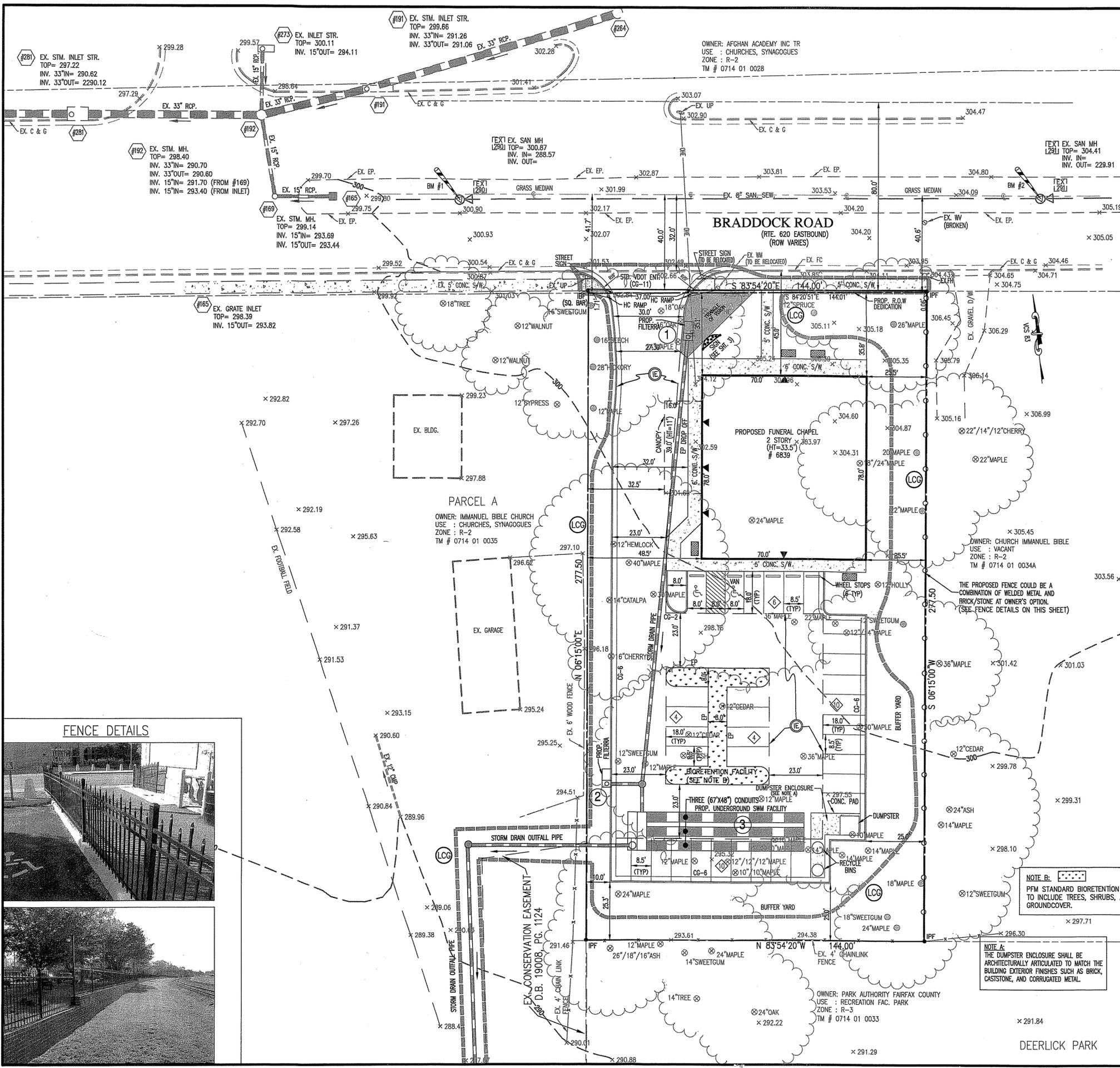
SCG

SANIE CONSULTING GROUP, LLC
LAND DEVELOPMENT CONSULTING

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RECEIVED
Department of Planning & Zoning
DEC 02 2014
Zoning Evaluation Division

OWNER AND APPLICANT:
AFGHAN ACADEMY, INC.
6844 BRADDOCK ROAD
ANNANDALE, VA 22003
TEL: 703-658-7134



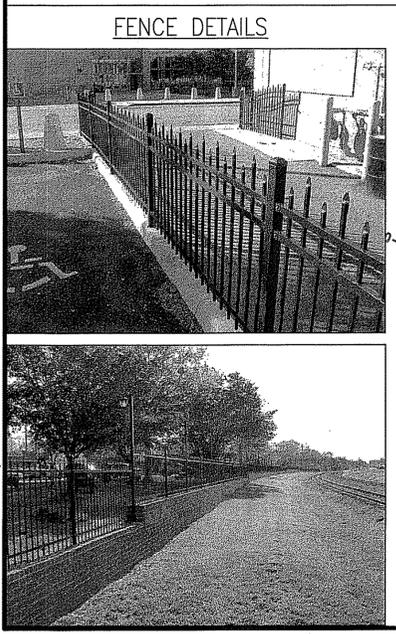
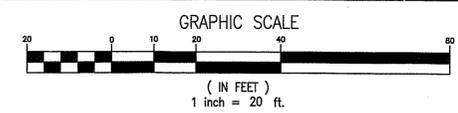
ZONING REQUIREMENTS:

ZONING: R-2
 AVG. LOT AREA: 18,000 SF
 MIN LOT AREA: 15,000 SF
 MIN LOT WIDTH:
 INTERIOR LOT: 100'
 MAX. BUILDING HEIGHT: 60'
 MIN. YARD REQUIREMENTS
 FRONT: 45 DEG. ANGLE OF BULK PLANE NOT LESS THAN 35'
 SIDE: 40 DEG. ANGLE OF BULKPLANE NOT LESS THAN 15'
 REAR: 40 DEG. ANGLE OF BULK PLANE NOT LESS THAN 25'
 MAXIMUM FLOOR AREA RATIO (FAR): 0.20
 GROSS FLOOR AREA ALLOWED: 0.2 x 39995 = 7,999.00

SITE TABULATION:

TAX MAP #: 0714-01-0034
 ZONE: R-2
 GROSS SITE AREA (G.S.A.): 0.922 AC OR 40,162 SF.
 STREET DEDICATION: 0.0038 AC OR 167 SF.
 RESIDUAL AREA: 0.918 AC OR 39995 SF.
 LOT WIDTH: 144.0'
 PROPOSED USE: FUNERAL CHAPEL
 PROPOSED BUILDING HEIGHT: 33.5'
 MINIMUM YARD REQUIREMENT (MYR):
 FRONT: 35'
 SIDE: 16.78'
 REAR: 25'
 MINIMUM YARD PROVIDED:
 (SEE SHEET 5 FOR ANGLE OF BULK DETAILS, SETBACKS, & BUILDING HEIGHT)
 FRONT: 35.1'
 SIDE: 25.5'
 REAR: 162.9'
 PROPOSED BUILDING GROSS FLOOR AREA: 7,334.00 SF
 NUMBER OF PROPOSED SEATING: 90
 NUMBER OF EMPLOYEES: 4
 NUMBER OF BUSINESS VEHICLES: 2
 TOTAL OCCUPANCY: 94
 PROVIDED FLOOR AREA RATIO (FAR) 0.1834 < 0.2
 NUMBER OF PROPOSED FLOORS: 2
 PARKING SPACES REQUIREMENT: 1 SP / 4 SEATS + 1 SP / 2 EMPOL + 1 SP / BUSINESS VEHICLE
 PARKING SPACES REQUIRED: (90 / 4) + (4 / 2) + (2 / 1) = 23 + 2 + 2 = 27 SPACE
 PARKING SPACES PROVIDED: 34 SPACES
 HANDICAP PARKING SPACE REQUIRED: 2 SPACES (1 REGULAR & 1 VAN)
 HANDICAP PARKING SPACE PROVIDED: 2 SPACES (VAN)
 INTERIOR PARKING LOT LANDSCAPING AREA REQ'D: 5% OF TOTAL PARKING AREA
 TOTAL PARKING AREA: 16,200 SF
 INTERIOR PARKING LOT LANDSCAPING AREA PROVIDED: 1,433 SF
 TRANSITIONAL SCREENING REQUIREMENT:
 EAST SIDE: TYPE 1, PROVIDED WIDTH 25 FT.

EXISTING	DESCRIPTION	PROPOSED
---	PROPERTY LINE	---
---	CENTERLINE	---
---	CLEARING AND GRADING	---
---	TREE LINE	---
---	SANITARY SEWER	---
---	STORM SEWER	---
○	TREE	○
BM #	BENCHMARK	BM #
---	CONCRETE SIDEWALK	---
○	STOP SIGN	○
+	STREET SIGN	+
---	OVERHEAD ELECTRIC	---
---	HANDICAP PARKING SPACE (VAN)	---
---	NUMBER OF PARKING	---
---	EXIT DOORS	---
---	INGRESS/EGRESS EASEMENT	---
---	PROPOSED BENCH	---
---	R.O.W = RIGHT OF WAY	---
---	TBR = TO BE REMOVED	---



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REUSE OF DOCUMENTS
 THIS DOCUMENT IS AN INSTRUMENT OF SERVICE AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF SANIE CONSULTING GROUP, LLC.

SANIE CONSULTING GROUP, LLC
 LAND DEVELOPMENT CONSULTING

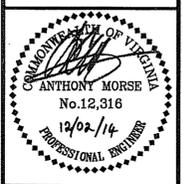
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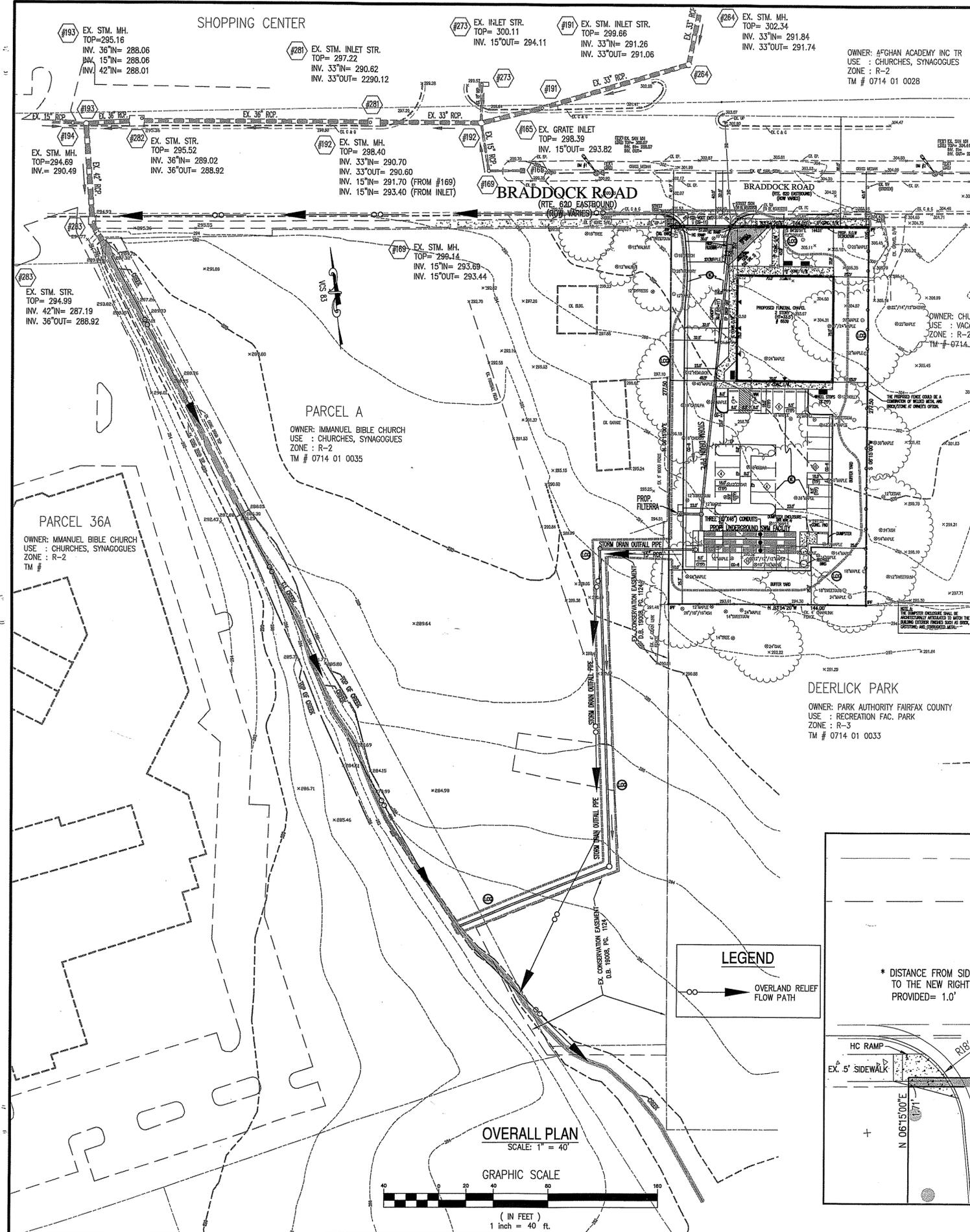
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SPECIAL EXCEPTION DEVELOPMENT PLAT
6839 BRADDOCK ROAD
PARCEL 3A

FAIRFAX COUNTY, VIRGINIA
 MASON DISTRICT

PLAN STATUS	DATE	DESCRIPTION
	1-6-14	OC SUB.
	3-12-14	1ST SUB.
	4-14-14	2ND SUB.
	6-12-14	3 RD. SUB.
	9-23-14	4 TH. SUB.
	10-8-14	5TH SUBMISSION
	12-2-14	6TH SUBMISSION
PROJECT NO	PROJECT COORDINATOR: SOHAILA S SHEKIB	
DATE: 12-02-2014	DESIGN	DRAWN
	SSS	WS/MS
		CHKD
		TM
SCALE: 1" = 20'	JOB No. VA-13-110	
	FILE No. 106-SE-SCG	
SHEET 2 OF 10		





OUTFALL NARRATIVE:

THIS PROJECT PROPOSES TO CAPTURE APPROXIMATELY 95 % OF THE PROPOSED IMPERVIOUS AREA WITH A STORM SEWER SYSTEM AS SHOWN ON THE OVERALL SITE DEVELOPMENT PLAN. PERMISSION TO GRADE AND ALL OFFSITE EASEMENTS REQUIRED TO CONSTRUCT THIS OUTFALL HAVE BEEN DISCUSSED AND MUTUALLY AGREED TO WITH THE ADJACENT OWNER, THE IMMANUEL BIBLE CHURCH.

THE PROPOSED STORM WATER MANAGEMENT WILL PROVIDE WATER QUALITY AND QUANTITY THROUGH A SERIES OF FILTERRA STRUCTURES AND AN UNDERGROUND DETENTION STRUCTURE AS SHOWN ON THE PLAN. THE STORM WATER WILL BE CONVEYED IN THE PROPOSED STORM SEWER TO A BED AND BANKS CONDITION SOUTH OF THE PROPOSED DEVELOPMENT. THE EXISTING BED AND BANKS CONDITION AT THIS POINT IS IN COUNTY FLOOD PLAIN AND HAS BEEN ARMORED WITH CLASS II RIP RAP FOR THE IMMANUEL BIBLE CHURCH PROJECT DUE TO RUNOFF VELOCITIES THAT EXCEED THOSE ALLOWED FOR THE PFM REFLECTED BECAUSE THE BANKS UP FROM THE STREAM BED ARE ERODED DOWN STREAM OUR OUTFALL WILL OUTLET INTO THIS RIP RAP AREA. THE DISTURBED AREA OF OUR SITE (.85 ACRES) WHICH IS IN THIS 90.5 ACRE DRAINAGE DIVIDE IS AT A POINT THAT EXCEEDS THE 100 TIMES THE DISTURBED AREA (90.5/.85 = 106.5 TIMES). THE 10-YEAR RUNOFF FLOWS ARE CONTAINED WITHIN THE BED AND BANKS STREAM BED AND IS DEEMED ADEQUATE. (SEE SHEET 2 FOR CALCULATIONS AND SECTIONS FROM THE IMMANUEL BIBLE CHURCH DONE BY GORDON AND ASSOCIATE IN APRIL 2006 INCLUDED AS INFORMATION).

REQUIRED CALCULATIONS AND DETAILS WILL BE PROVIDED DURING FINAL PLAN DESIGN TO PROVE THAT THE DISCHARGE FLOWS FROM THE OUTFALL PIPE WILL NOT BE ERODIVE TO THE OUTFALL BED AND BANKS AND IF REQUIRE NECESSARY STEPS WILL BE TAKEN TO REDUCE EXISTING VELOCITIES TO INSURE STABILITY.

THEREFORE, IT IS MY OPINION THAT THIS OUTFALL WILL MEET ALL OF THE REQUIREMENTS OF THE PFM AND THERE WILL BE NO ERODIVE CONDITIONS DOWNSTREAM FROM THIS OUTFALL.

BMP AND SWM NARRATIVE:

THIS PROJECT WILL PROVIDE WATER QUALITY BY INSTALLING BUT NOT LIMITED TO THE FILTERRA STRUCTURES SHOWN ON THE PLAN. THE FILTERRA STRUCTURES WILL CAPTURE THE RUNOFF FROM THE BUILDING AND THE PARKING SURFACE AND FILTER THE IMPERVIOUS AREAS PRIOR TO ENTERING THE STORM SEWER SYSTEM. IN ADDITION WITH ALL OF THE PROPOSED BUFFERS AND GREEN SPACE AREAS THE PROPOSED SYSTEMS WILL EXCEED THE 40% REMOVAL REQUIREMENTS.

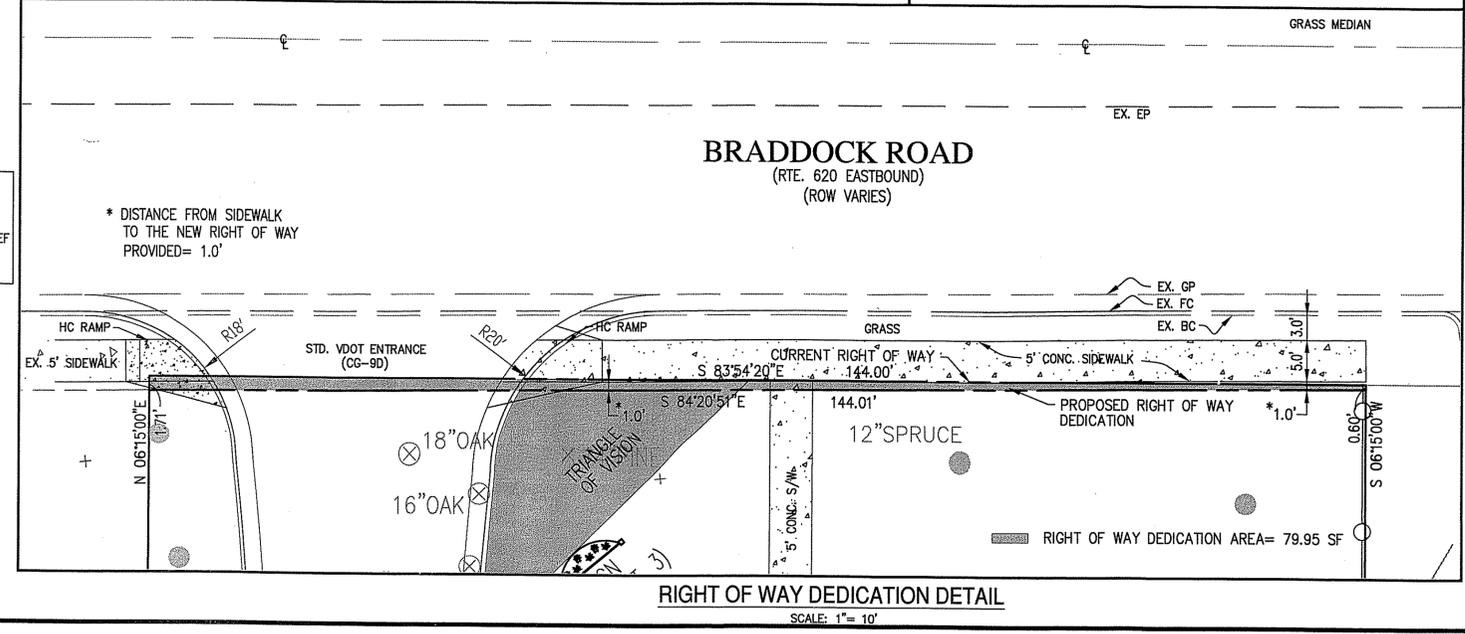
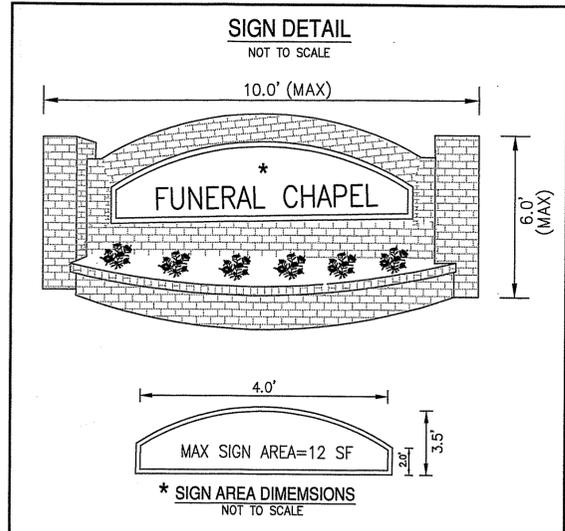
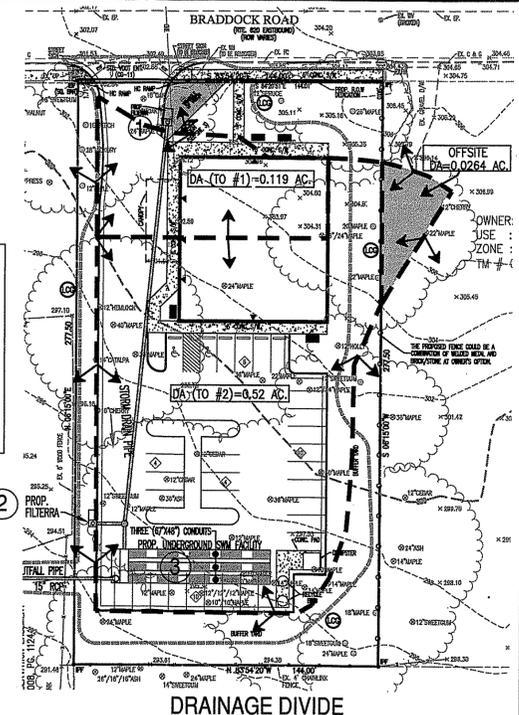
ALL OF THE STORM WATER COLLECTED ON SITE WILL BE ROUTED THROUGH THE UNDERGROUND DETENTION SYSTEM PROPOSED ON SITE AS SHOWN TO PROVIDE ALL REDUCTIONS IN OFFSITE FLOWS AS REQUIRED BY THE PFM.

OVERLAND RELIEF NARRATIVE:

THE 100 YEAR STORM AND THOSE OF GREATER INTENSITY WILL FLOW IN TWO DIFFERENT DIRECTIONS FROM THIS SITE BUT ULTIMATELY END UP IN THE FLOOD PLAIN OF THE STREAM LOCATED TO THE WEST OF THE SITE. THE 100 YEAR STORM ON THE FRONT PORTION OF THE SITE WILL FLOW IN THE CURB AND GUTTER OF BRADDOCK ROAD TO A LOW POINT AND STORM SEWER AND A SWALE THAT CARRIES THE 100 YEAR STORM PARALLEL TO THAT STORM TO THE EXISTING STREAM. THE PORTION OF THE RUNOFF FOR THE 100 YEAR STORM THAT FLOWS FROM THE SOUTHWESTERN CORNER OF THE SITE WILL ULTIMATELY SHEET FLOW ACROSS THE PLAYING FIELD OF THE CHURCH TO THE SAME STREAM TO THE WEST OF THE SITE.

THEREFORE, IT IS THIS ENGINEERS OPINION THAT THE 100 YEAR OVERLAND RELIEF HAVE BEEN PROVIDED AND IT ADEQUATE.

- LEGEND**
- 1 PROPOSED FILTERRA STRUCTURE #1
 - 2 PROPOSED FILTERRA STRUCTURE #2
 - 3 PROPOSED UNDERGROUND BASIN



SANIE CONSULTING GROUP, LLC
LAND DEVELOPMENT CONSULTING

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OVERALL PLAN AND CORRESPONDENCE
6839 BRADDOCK ROAD
PARCEL 34

FAIRFAX COUNTY, VIRGINIA
MASON DISTRICT

PLAN STATUS	DATE	DESCRIPTION
1	1-6-14	QC SUB.
2	3-12-14	1ST SUB.
3	4-14-14	2ND SUB.
4	6-12-14	3 RD. SUB.
5	8-23-14	4 TH. SUB.
6	10-8-14	5TH SUBMISSION
7	12-2-14	6TH SUBMISSION

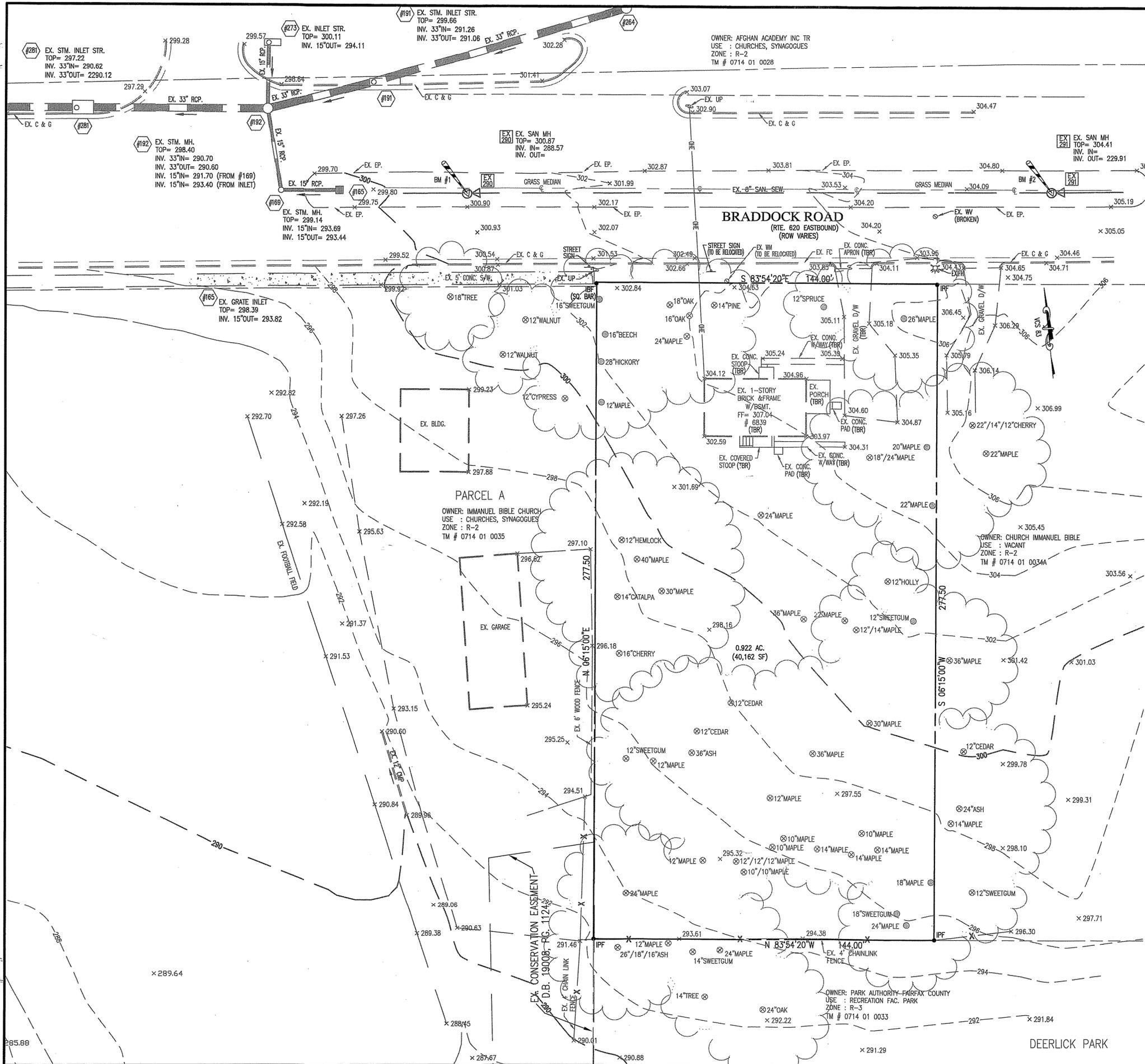
PROJECT NO

ANTHONY MORSE
No. 12,316
12/02/14
PROFESSIONAL ENGINEER

DATE: 12-02-2014
PROJECT COORDINATOR:
SOHAILA S SHEKIB
DESIGN: SSS
DRAWN: WS/MS
CHKD: TM
SCALE: H: 1"=40'
V: N/A

JOB No. VA-13-110
FILE No. 106-SE-SCG

SHEET 3 OF 10



LEGEND

EXISTING	DESCRIPTION
	INDEX CONTOUR
	INTERMEDIATE CONTOUR
	EDGE OF PAVEMENT
	CURB AND GUTTER
	PROPERTY LINE
	CENTERLINE
	TREE LINE
	FENCE LINE
	EX. SAN. SEWER
	STORM DRAIN
	SANITARY SEWER IDENTIFIER
	STORM DRAIN IDENTIFIER
	UTILITY POLE
	WATER METER
	STOP SIGN
	STREET SIGN
	CONCRETE SIDEWALK
	OVERHEAD ELECTRIC
	TREE
	SPOT ELEVATION
	BENCHMARK

TBR= TO BE REMOVED

LANE CONSULTING GROUP, LLC
LAND DEVELOPMENT CONSULTING

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EXISTING CONDITIONS PLAN
6839 BRADDOCK ROAD
PARCEL 34

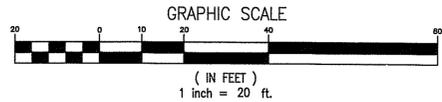
FAIRFAX COUNTY, VIRGINIA
MASON DISTRICT

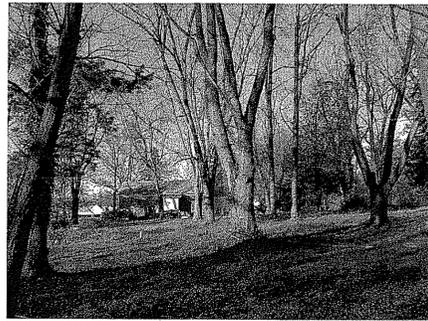
PLAN STATUS	DATE	DESCRIPTION
OC	8-14-14	OC SUB
1ST SUB	12-14-14	1ST SUB
2ND SUB	1-14-14	2ND SUB
3RD SUB	8-12-14	3RD SUB
4TH SUB	8-25-14	4TH SUB
5TH SUBMISSION	10-8-14	5TH SUBMISSION
6TH SUBMISSION	12-2-14	6TH SUBMISSION

PROJECT NO

COMMONWEALTH OF VIRGINIA
ANTHONY MORSE
No. 12,316
12/07/14
PROFESSIONAL ENGINEER

DATE : 12-02-2014
PROJECT COORDINATOR:
SOHAILA S SHEKIB
DESIGN DRAWN CHKD
SSS WS/MS TM
SCALE H: 1"=20'
V: N/A
JOB No. VA-13-110
FILE No. 106-SE-SCG
SHEET 4 OF 10

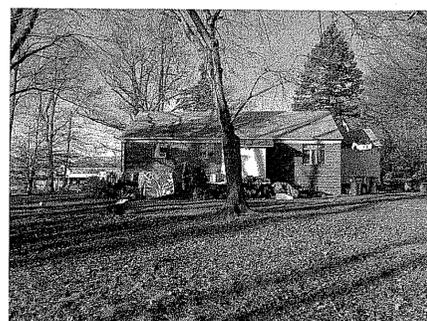




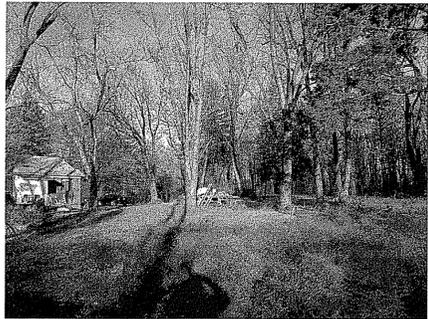
SOUTH PROPERTY LINE - INWARD



SOUTH PROPERTY LINE - OUTWARD



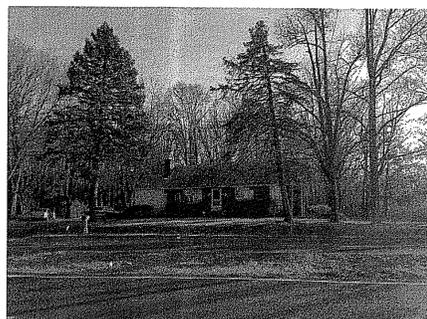
NORTH PROPERTY LINE - MIDPOINT



EAST PROPERTY LINE - OUTWARD

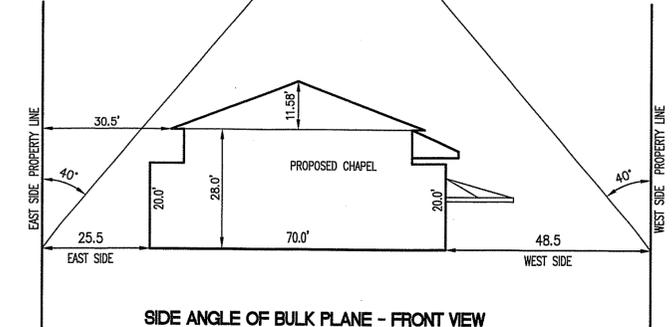


EAST PROPERTY LINE - OUTWARD



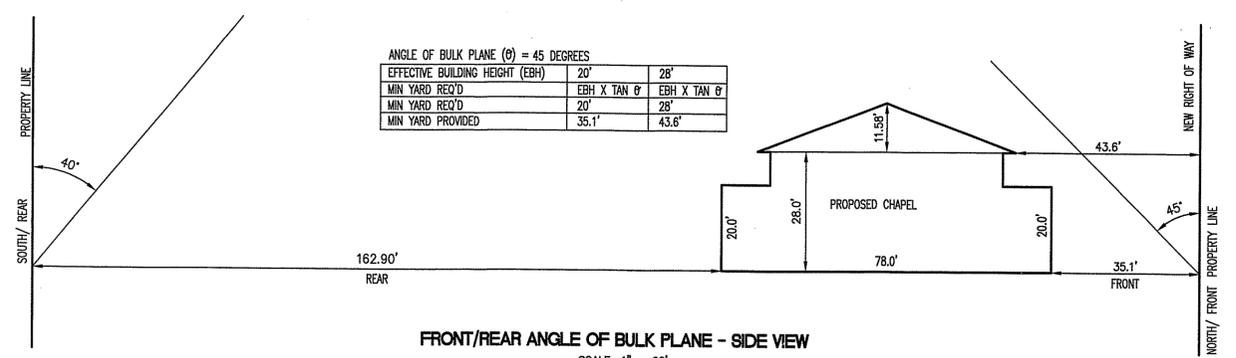
NORTH PROPERTY LINE - INWARD

ANGLE OF BULK PLANE (θ) = 40 DEGREES		
EFFECTIVE BUILDING HEIGHT (EBH)	20'	28'
MIN YARD REQ'D	EBH X TAN θ	EBH X TAN θ
MIN YARD REQ'D	16.78'	23.49'
MIN YARD PROVIDED	25.5'	34.0'

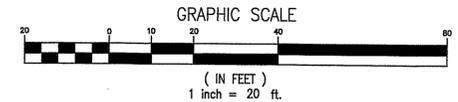


SIDE ANGLE OF BULK PLANE - FRONT VIEW
SCALE: 1" = 20'

ANGLE OF BULK PLANE (θ) = 45 DEGREES		
EFFECTIVE BUILDING HEIGHT (EBH)	20'	28'
MIN YARD REQ'D	EBH X TAN θ	EBH X TAN θ
MIN YARD REQ'D	20'	28'
MIN YARD PROVIDED	35.1'	43.6'

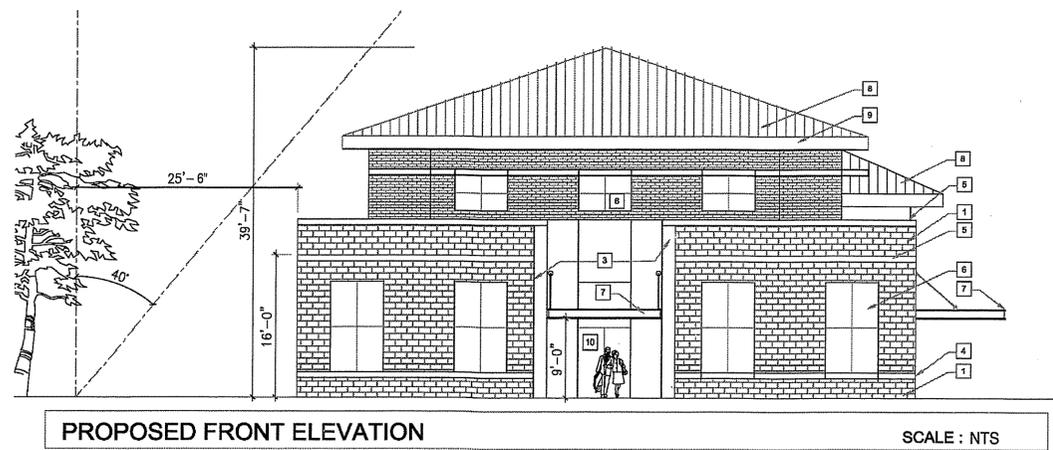
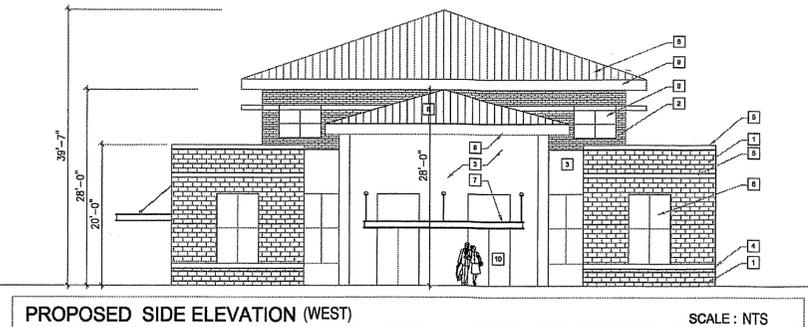


FRONT/REAR ANGLE OF BULK PLANE - SIDE VIEW
SCALE: 1" = 20'



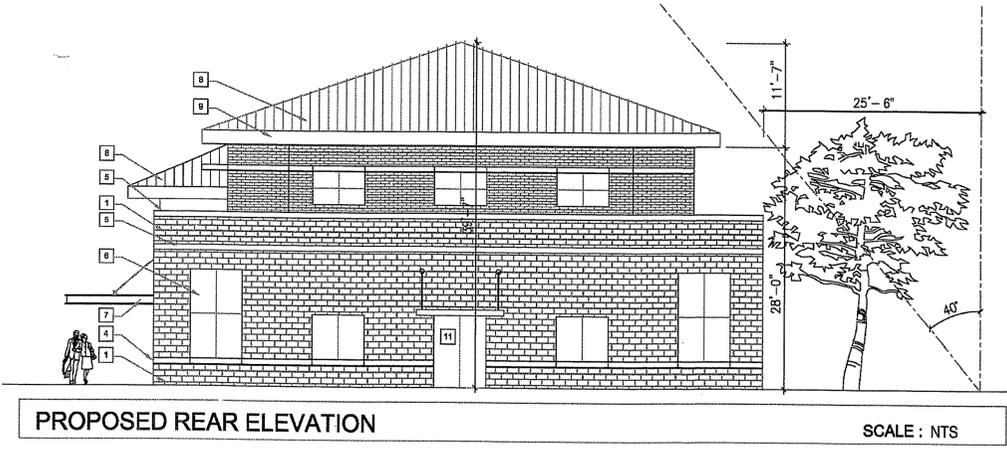
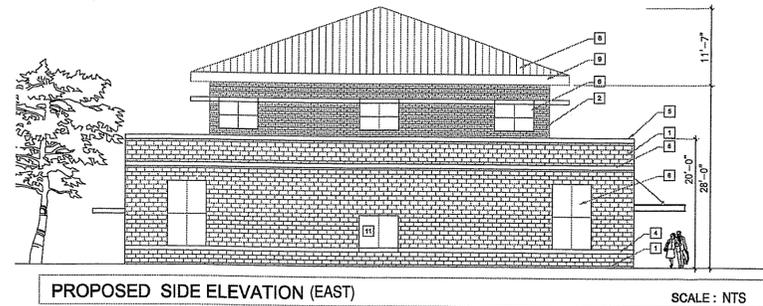
ELEVATION'S FINISH KEY NOTES

- 1 BRICK TYPE 1
- 2 BRICK TYPE 2
- 3 CASTSTONE
- 4 CASTSTONE WINDOW SILL
- 5 CASTSTONE BAND
- 6 INSULATED WINDOW
- 7 STEEL CANOPY
- 8 STANDING SEAM METAL ROOF
- 9 CONCEAL GUTTER
- 10 GLAZING DOOR AND ALUMINUM FRAME
- 11 HOLLOW METAL DOOR AND FRAME
- 12 ALUMINUM LOVER-SEE MECHANICAL DRAWING
- 13 INSULATED EXTERIOR DOOR
- 14 METAL FASCIA
- 15
- 16



ELEVATION'S FINISH KEY NOTES

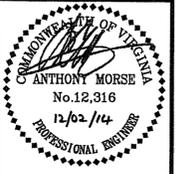
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- 13 INSULATED EXTERIOR DOOR
- 14 METAL FASCIA
- 15
- 16



DETAILS, ELEVATIONS AND
SITE PHOTOGRAPHS
6839 BRADDOCK ROAD
PARCEL 34

PLAN STATUS	DATE	DESCRIPTION
	1-6-14	QC SUB.
	3-12-14	1ST SUB.
	4-14-14	2ND SUB.
	6-12-14	3 RD. SUB.
	9-23-14	4 TH. SUB.
	10-8-14	5TH SUBMISSION
	12-2-14	6TH SUBMISSION

PROJECT NO



DATE : 12-02-2014
PROJECT COORDINATOR:
SOHAILA S SHEKIB
DESIGN SSS DRAWN WS/MS CHKD TM
SCALE H: 1" = 20'
V: N/A
JOB No. VA-13-110
FILE No. 106-SE-SCG
SHEET 5 OF 10

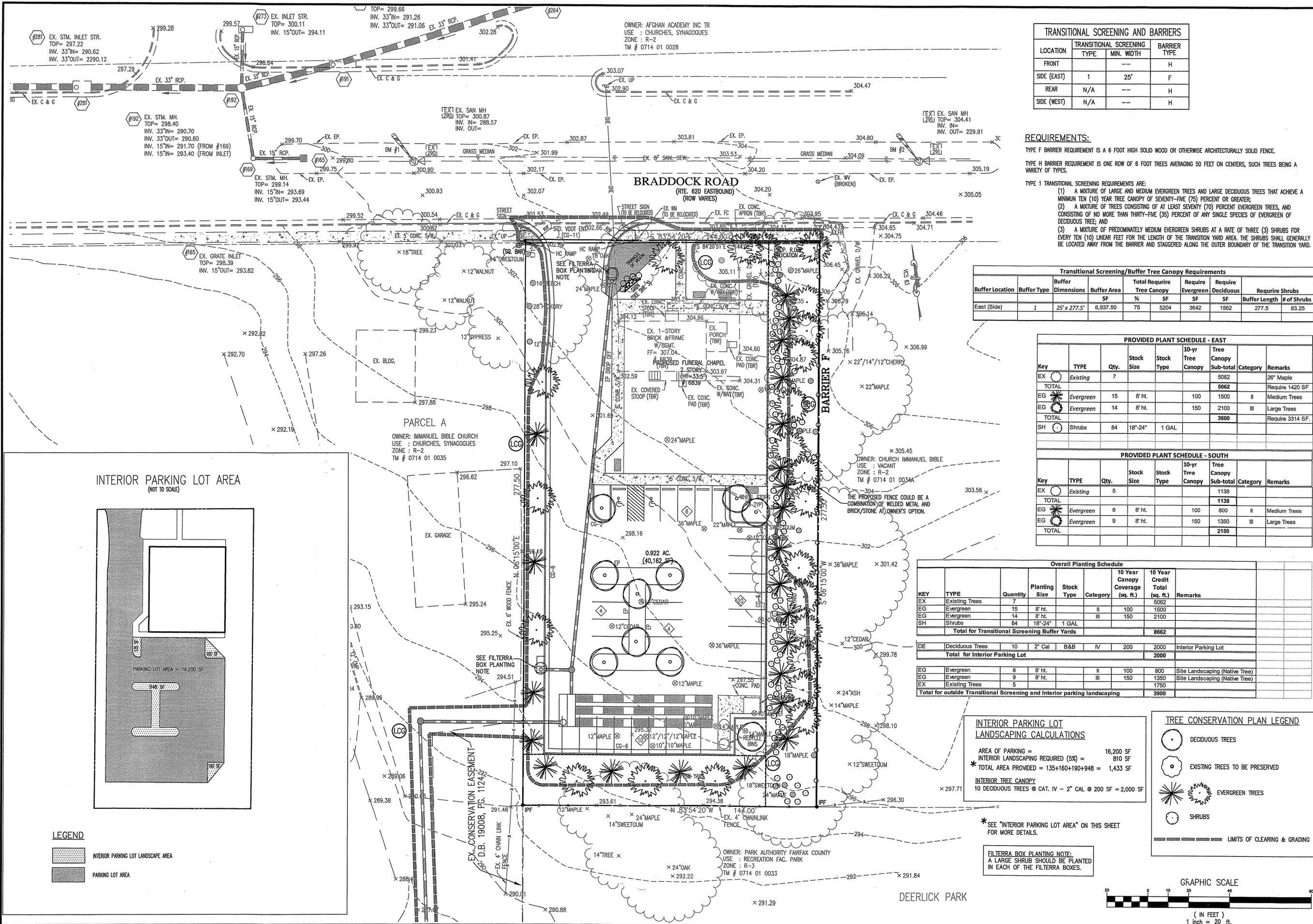
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FAIRFAX COUNTY, VIRGINIA

MASON DISTRICT



OWNER: AFGHAN ACADEMY INC TR
 USE : CHURCHES, SYNAGOGUES
 ZONE : R-2
 TM # 0714 01 0028

PARCEL A
 OWNER: IMMANUEL BIBLE CHURCH
 USE : CHURCHES, SYNAGOGUES
 ZONE : R-2
 TM # 0714 01 0035

OWNER: CHURCH IMMANUEL BIBLE
 USE : VACANT
 ZONE : R-2
 TM # 0714 01 0034A

OWNER: PARK AUTHORITY FAIRFAX COUNTY
 USE : RECREATION FAC. PARK
 ZONE : R-3
 TM # 0714 01 0033

TRANSITIONAL SCREENING AND BARRIERS			
LOCATION	TRANSITIONAL SCREENING TYPE	MIN. WIDTH	BARRIER TYPE
FRONT	---	---	H
SIDE (EAST)	1	25'	F
REAR	N/A	---	H
SIDE (WEST)	N/A	---	H

REQUIREMENTS:

TYPE F BARRIER REQUIREMENT IS A 6 FOOT HIGH SOLID WOOD OR OTHERWISE ARCHITECTURALLY SOLID FENCE.
 TYPE H BARRIER REQUIREMENT IS ONE ROW OF 6 FOOT TREES AVERAGING 50 FEET ON CENTERS, SUCH TREES BEING A VARIETY OF TYPES.
 TYPE 1 TRANSITIONAL SCREENING REQUIREMENTS ARE:
 (1) A MIXTURE OF LARGE AND MEDIUM EVERGREEN TREES AND LARGE DECIDUOUS TREES THAT ACHIEVE A MINIMUM TEN (10) YEAR TREE CANOPY OF SEVENTY-FIVE (75) PERCENT OR GREATER;
 (2) A MIXTURE OF TREES CONSISTING OF AT LEAST SEVENTY (70) PERCENT EVERGREEN TREES, AND CONSISTING OF NO MORE THAN THIRTY-FIVE (35) PERCENT OF ANY SINGLE SPECIES OF EVERGREEN OF DECIDUOUS TREE; AND
 (3) A MIXTURE OF PREDOMINANTLY MEDIUM EVERGREEN SHRUBS AT A RATE OF THREE (3) SHRUBS FOR EVERY TEN (10) LINEAR FEET FOR THE LENGTH OF THE TRANSITION YARD AREA. THE SHRUBS SHALL GENERALLY BE LOCATED AWAY FROM THE BARRIER AND STAGGERED ALONG THE OUTER BOUNDARY OF THE TRANSITION YARD.

Transitional Screening/Buffer Tree Canopy Requirements							
Buffer Location	Buffer Type	Buffer Dimensions	Buffer Area	Total Require Tree Canopy %	Require Evergreen SF	Require Deciduous SF	Require Shrubs Buffer Length # of Shrubs
East (Side)	1	25' x 277.5'	6,937.50	75	5204	3642	1562 277.5 83.25

PROVIDED PLANT SCHEDULE - EAST							
Key	TYPE	Qty.	Stock Size	Stock Type	10-yr Tree Canopy	Tree Canopy Sub-total	Category Remarks
EX	Existing	7				5062	26" Maple
TOTAL						5062	Require 1420 SF
EG	Evergreen	15	8' ht.		100	1500	II Medium Trees
EG	Evergreen	14	8' ht.		150	2100	III Large Trees
TOTAL						3600	Require 3314 SF
SH	Shrubs	84	18"-24"	1 GAL			

PROVIDED PLANT SCHEDULE - SOUTH							
Key	TYPE	Qty.	Stock Size	Stock Type	10-yr Tree Canopy	Tree Canopy Sub-total	Category Remarks
EX	Existing	5				1138	
TOTAL						1138	
EG	Evergreen	8	8' ht.		100	800	II Medium Trees
EG	Evergreen	9	8' ht.		150	1350	III Large Trees
TOTAL						2150	

Overall Planting Schedule								
KEY	TYPE	Quantity	Planting Size	Stock Type	Category	10 Year Canopy Coverage (sq. ft.)	10 Year Credit Total (sq. ft.)	Remarks
EX	Existing Trees	7					5062	
EG	Evergreen	15	8' ht.		II	100	1500	
EG	Evergreen	14	8' ht.		III	150	2100	
SH	Shrubs	84	18"-24"	1 GAL				
Total for Transitional Screening Buffer Yards						8662		
DE	Deciduous Trees	10	2" Cal	B&B	IV	200	2000	Interior Parking Lot
Total for Interior Parking Lot							2000	
EG	Evergreen	8	8' ht.		II	100	800	Site Landscaping (Native Tree)
EG	Evergreen	9	8' ht.		III	150	1350	Site Landscaping (Native Tree)
EX	Existing Trees	5					1750	
Total for outside Transitional Screening and Interior parking landscaping						3900		

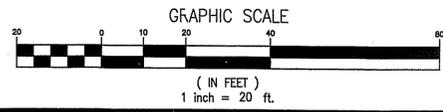
INTERIOR PARKING LOT LANDSCAPING CALCULATIONS
 AREA OF PARKING = 16,200 SF
 INTERIOR LANDSCAPING REQUIRED (5%) = 810 SF
 * TOTAL AREA PROVIDED = 135+160+190+948 = 1,433 SF
 INTERIOR TREE CANOPY
 10 DECIDUOUS TREES @ CAT. IV - 2" CAL @ 200 SF = 2,000 SF

TREE CONSERVATION PLAN LEGEND

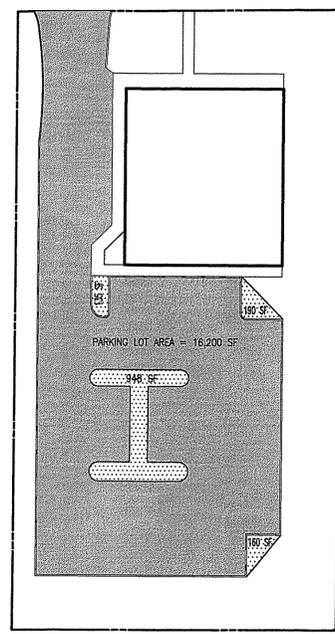
- DECIDUOUS TREES
- EXISTING TREES TO BE PRESERVED
- EVERGREEN TREES
- SHRUBS
- LIMITS OF CLEARING & GRADING

* SEE "INTERIOR PARKING LOT AREA" ON THIS SHEET FOR MORE DETAILS.

FILTERRA BOX PLANTING NOTE:
 A LARGE SHRUB SHOULD BE PLANTED IN EACH OF THE FILTERRA BOXES.



INTERIOR PARKING LOT AREA (NOT TO SCALE)



LEGEND

- INTERIOR PARKING LOT LANDSCAPE AREA
- PARKING LOT AREA

LANDSCAPE PLAN
 6839 BRADDOCK ROAD
 PARCEL 34

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FAIRFAX COUNTY, VIRGINIA
 MASON DISTRICT

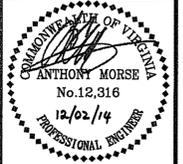
PROJECT NO

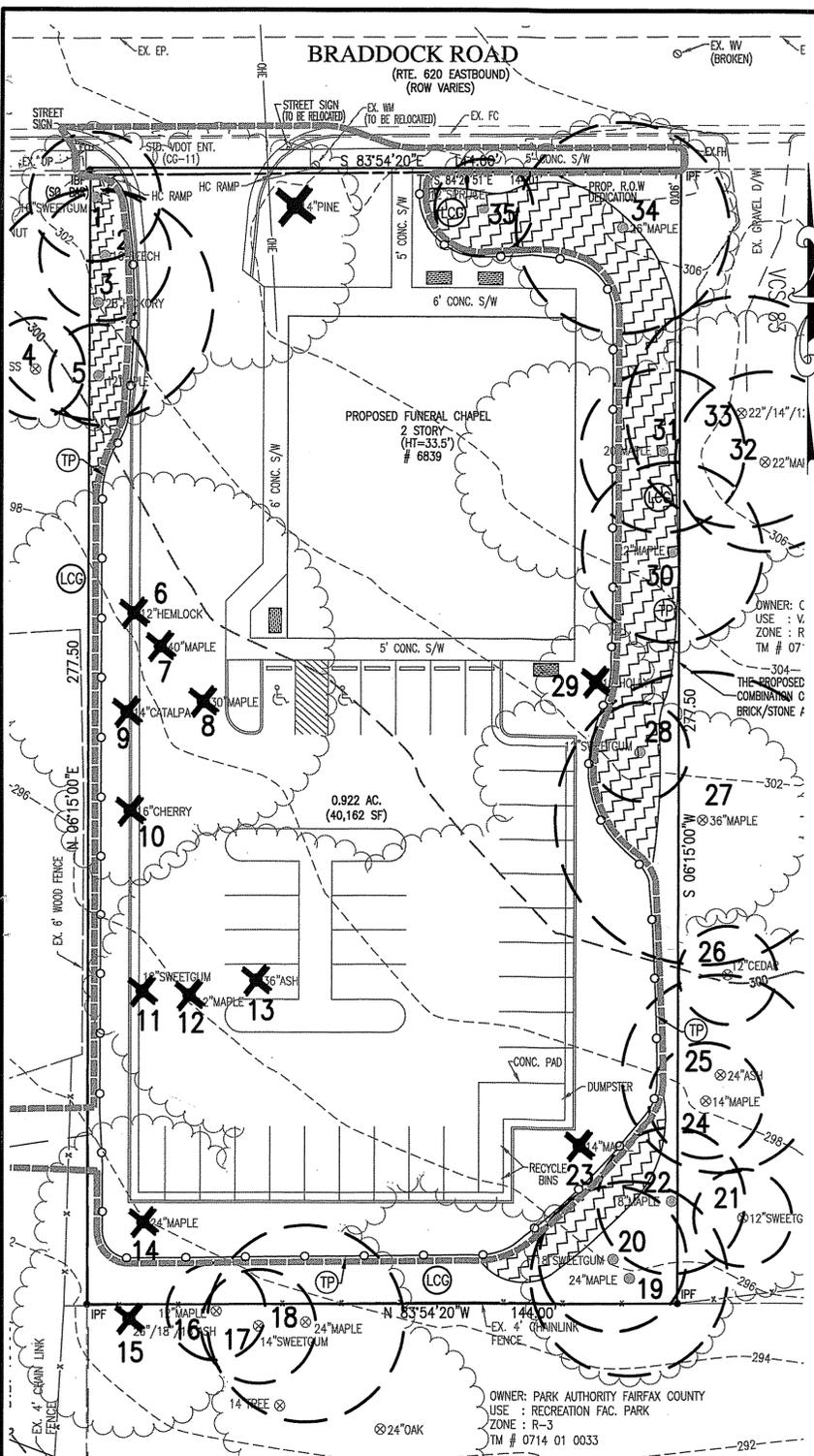
DATE : 12-02-2014
 PROJECT COORDINATOR:
 SOHAILA S SHEKIB

DESIGN DRAWN CHKD
 SSS WS/MS TM

SCALE H: 1"=20'
 V: N/A

JOB No. VA-13-110
 FILE No. 106-SE-SCG
 SHEET 6 OF 10





TREE PRESERVATION PLAN

SCALE 1" = 20'

TREES TO BE PRESERVED BY METHODS OF ROOT PRUNING, TREE PRESERVATION FENCING, MULCHING WITHIN THE ROOT ZONE AND OTHER APPROVED METHODS.

I CERTIFY THIS PLAN MEETS BOTH THE TREE PRESERVATION TARGET (PFM 12-0501) AND THE TREE CONSERVATION PLAN (PFM 12-0502) SUBMITTAL REQUIREMENTS. NO DEVIATIONS OR MODIFICATIONS TO THESE REQUIREMENTS ARE BEING REQUESTED.

THIS PLAN WAS PREPARED BY DONALD E. ZIMAR, MARYLAND REGISTERED FORESTER #371, ISA CERTIFIED ARBORIST MA-0039, ISA CERTIFIED TREE RISK ASSESSOR #758.

TREE INVENTORY

Tag #	Species	Size	**TRZ	**Condition	Canopy Position	Crown Density	Problems	Status	Activities	Comments
1	sweetgum	16	16	80	dominant	80		preserve	X X X X X X X X	
2	American beech	16	16	80	dominant	80		preserve	X X X X X X X X	
3	hickory	28	28	80	dominant	85		preserve	X X X X X X X X	
4	leland cypress	12	12	85	isolated	85		preserve	X X X X X X X X	off site
5	red maple	12	12	70	codominant	85		preserve	X X X X X X X X	
6	hemlock	12	12	40	codominant	40	declining	remove	X X X X X X X X	
7	silver maple	40	40	40	dominant	30	declining	remove	X X X X X X X X	
8	silver maple	30	30	40	dominant	30	declining	remove	X X X X X X X X	
9	catalpa	14	14	50	codominant	50	declining	remove	X X X X X X X X	
10	black cherry	18	18	50	codominant	50	declining	remove	X X X X X X X X	
11	sweetgum	12	12	50	dominant	50	declining	remove	X X X X X X X X	
12	silver maple	12	12	50	intermediate	50	declining	remove	X X X X X X X X	
13	American ash	36	36	50	dominant	70	declining	remove	X X X X X X X X	
14	red maple	28	28	75	dominant	70		remove	X X X X X X X X	
15	American ash	28, 18, 16	30	75	dominant	70		remove	X X X X X X X X	off site
16	red maple	12	12	75	intermediate	70		preserve	X X X X X X X X	off site
17	sweetgum	14	14	75	dominant	70		preserve	X X X X X X X X	off site
18	red maple	24	24	70	dominant	75	leans into site	preserve	X X X X X X X X	off site
19	red maple	24	24	80	dominant	80		preserve	X X X X X X X X	
20	sweetgum	18	18	75	dominant	70		preserve	X X X X X X X X	
21	sweetgum	12	12	70	dominant	65	crook in trunk	preserve	X X X X X X X X	off site
22	silver maple	18	18	70	dominant	75		preserve	X X X X X X X X	
23	silver maple	14	14	70	dominant	70		remove	X X X X X X X X	
24	silver maple	14	14	60	intermediate	60		preserve	X X X X X X X X	off site
25	American ash	24	24	70	dominant	65		preserve	X X X X X X X X	off site
26	redcedar	12	12	60	intermediate	50	declining	preserve	X X X X X X X X	off site
27	silver maple	38	38	70	dominant	70		preserve	X X X X X X X X	off site
28	sweetgum	12	12	70	intermediate	75		remove	X X X X X X X X	off site
29	American holly	12	12	60	intermediate	60		remove	X X X X X X X X	off site
30	silver maple	22	22	60	dominant	60	dieback	preserve	X X X X X X X X	
31	red maple	20	20	70	dominant	70		preserve	X X X X X X X X	
32	silver maple	22	22	75	dominant	75		preserve	X X X X X X X X	off site
33	black cherry	22, 14, 12	28	50	dominant	40	declining	preserve	X X X X X X X X	off site
34	red maple	28	28	70	dominant	75		preserve	X X X X X X X X	off site
35	spruce	12	12	65	intermediate	65		preserve	X X X X X X X X	

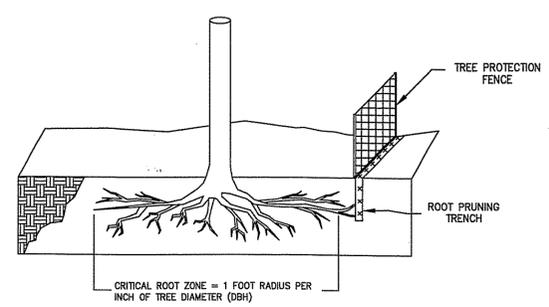
Inventory data collected by: Donald E. Zimar, Certified Arborist MA-0039, ISA #446
 *DBH = Diameter at Breast Height (measured 4.5 feet above ground)
 **TRZ = Typical Root Zone (1 foot of radius per inch of tree diameter)
 **Condition ratings: provided as percentages based on methods outlined in the latest edition of the Guide for Plant Appraisal, published by the International Society of Arboriculture
 TRZ for trees with multiple stems were calculated based on the diameter of a tree with the basal area equivalent to sum of the basal areas for all stems measured
 Code = # is number of recommended cables. Final determination to arborist doing work
 H = Hand Removal
 C = Crown cleaning: by pruning dead, diseased, detached, and broken branches 2 inches in diameter and larger as close to the point of origin possible without cutting into branch collar tissue

ZONING REQUIREMENTS

Symbol	Species (Common name)	Quantity	Planting Size	Type	10 Year Canopy Coverage (sq. ft.)	10 Year Credit total	Multiplier	Total Replanting Credit	Comments
IO	Ilex opaca (American holly)	4	8 ft. ht.	B&B	100	400	1.5	600	full/reen
QP	Quercus phellos (willow oak)	4	3" cal.	B&B	250	1000	1.5	1500	full
Totals		23			1400			2100	

Zimar & Associates, Inc.
 ARBORICULTURE FORESTRY CONSULTING
 10105 Residency Road, Suite 207
 Manassas, Virginia 20110
 Tel (703) 331-3731 Fax (703) 331-1359

ROOT PRUNING DETAIL



- TRENCH SHALL BE A MAXIMUM OF 6 INCHES WIDE
- TRENCH SHALL BE BETWEEN 18-24 INCHES DEEP
- TRENCH SHALL BE EXCAVATED USING AN AIR SPADE, VIBRATORY PLOW OR TRENCHER.
- TRENCH EXCAVATION SHALL BE IMMEDIATELY BACKFILLED.

TREE CONSERVATION PLAN LEGEND

- TREE TO BE REMOVED AT DISCRETION OF OWNER: X
- TREE TO BE PRESERVED: (circle with dot)
- MULCHING AREA: (hatched pattern)
- TREE PROTECTION FENCE & ROOT PRUNING: (line with circles)
- LIMIT OF DISTURBANCE: (dashed line)

SUMMARY OF TREE CANOPY CALCULATION WORKSHEET

Project Name	6839 Braddock Road
TAX MAP #	0714 01 0034
TOTAL SITE AREA =	40,162.32
PRE-DEVELOPED EXISTING TREE CANOPY AREA =	22412
AREA DEDICATED TO PARKS, ROAD FRONTAGE & EXEMPTIONS =	167
POST DEVELOP EXISTING TREE PRESERVATION AREA =	6,812
EXISTING TREE TO BE REMOVED =	15600
NEW TREE CANOPY PROVIDED =	7750
TOTAL TREE CANOPY PROVIDED =	14562
CURRENT ZONE =	R-2
REQ'D TREE CANOPY =	12049
	30%

Table 12.10 10-YR TREE CANOPY CALCULATION WORKSHEET

Project:	6839 Braddock Road	CURRENT ZONE:	R-2
TAX MAP #:	0714 01 0034	SITE AREA (SF):	40162.32

STEP A. Tree Preservation Target and Statement

A	Pre-development area of existing tree canopy (from Existing Vegetation Map)	=	22412
B	Percentage of gross site area covered by existing tree canopy	=	56%
C	Percentage of 10-year canopy required for site (see Table 12.4)	=	30%
D	Percentage of the 10-year canopy requirement that should be met through tree preservation (This is equivalent to 55% of the canopy goal of 30%)	=	17%
E	Proposed percentage of canopy requirement that will be met through tree preservation (This is equivalent to 55% of the Canopy goal of 30% being met)	=	17%
F	Has the Tree Preservation Target minimum been met?	(YES/NO)	YES
G	If NO for line F, then a request to deviate from the Tree Preservation Target shall be provided on the plan that states one or more of the justifications listed in §12-0507.3 along with a narrative that provides a site-specific explanation of why the Tree Preservation target cannot be met. Provide sheet number where deviation request is located.		N/A
H	If step G requires a narrative, it shall be prepared in accordance with §12-0507.4		N/A

STEP B. Tree Canopy Requirement

B1	Identify gross site area	=	40162	§ 12-0510.1A
B2	Subtract area dedicated to parks, road frontage and	=		§ 12-0510.1B
B3	Subtract area of exemptions	=	167	§ 12-0510.1C(1) through § 12-0510.1C(6)
B4	Adjusted gross site area (B1-B2)	=	39995	
B5	Identify site's zoning and/or use	=	R-2	
B6	Percentage of 10-year tree canopy required	=	30%	§ 12-0509.1 and Table 12.4
B7	Area of 10-year canopy required (B4 x B6)	=	12049	
B8	Modification of 10-year Tree Canopy Requirements requested?	NO	Yes or No	
B9	If B8 is YES, then list plan sheet where modification request is located	N/A	Sheet Number	

STEP C. Tree Preservation

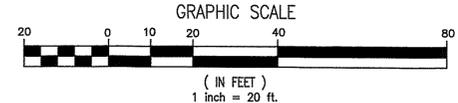
C1	Tree Preservation Target area	=	6380	
C2	Total existing canopy area meeting standards of § 12-0200	=	6812	
C3	C2 x 1.25	=	8515	§ 12-0509.3B
C4	Total canopy area provided by unique or valuable forest or woodland communities	=	0	
C5	C4 x 1.5	=	0	§ 12-0509.3B(1)
C6	Total canopy area provided by "Heritage," "Memorial," "Specimen," or "Street" trees	=	0	
C7	C6 x 1.5 to 3.0 =	=	0	§ 12-0509.3B(2)
C8	Canopy area of trees within Resource Protection Areas (RPA) and 100-year floodplains	=	0	
C9	C8 x 1.0	=	0	§ 12-0509.3C(1)
C10	Total of C3, C5, C7 and C9	=	8515	If area of C10 is less than B7 remainder of requirement must be met through tree planting - go to D

STEP D. Tree Planting

D1	Area of canopy to be met through tree planting (B7-C10)	=	3534	
D2	Area of canopy planted for air quality benefits	=	0	
D3	D2 x 1.25	=	0	§ 12-0509.4B(1)
D4	Area of canopy planted for energy conservation	=	0	
D5	D4 x 1.5	=	0	§ 12-0509.4B(2)
D6	Area of canopy planted for water quality benefits	=	0	
D7	D6 x 1.25	=	0	§ 12-0509.4B(3)
D8	Area of canopy planted for wildlife benefits	=	0	
D9	D8 x 1.5	=	0	§ 12-0509.4B(4)
D10	Area of canopy provided by native trees	=	0	
D11	D10 x 1.5	=	0	§ 12-0509.4B(5)
D12	Area of canopy provided by improved cultivars and varieties	=	0	
D13	D12 x 1.25	=	0	§ 12-0509.4B(6)
D14	Area of canopy provided through tree seedlings	=	0	§ 12-0509.4D(1)
D15	Area of Canopy provided with no benefit multiplier	=	7750	§ 12-0509.4D(1)(a)
D16	Percentage of D14 represented by D15	=	7750	Must not exceed 33% of D14
D17	Total tree canopy area provided through tree planting	=	7750	
D18	Is an offsite planting relief requested?	No	Yes or No	
D19	Tree Bank or Tree Fund?	No	§ 12-0511	
D20	Canopy area requested to be provided through offsite banking or tree fund	0		
D21	Amount to be deposited into the Tree Preservation and Planting Fund	0		

STEP E. Total of 10-year Tree Canopy Provided

E1	Total of canopy area provided through tree preservation (C10)	=	8515	
E2	Total of canopy area provided through tree planting (D17)	=	7750	
E3	Total of canopy area provided through offsite mechanism (D19)	=	No	
E4	Total of 10-year Tree Canopy Provided	=	16265	Total of E1 through E3. Area should meet or exceed area in B7



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TREE PRESERVATION PLAN
 6839 BRADDOCK ROAD
 PARCEL 34
 MASON DISTRICT
 FAIRFAX COUNTY, VIRGINIA

PLAN STATUS	DATE	DESCRIPTION	QC SUB	CC SUB	1ST SUB	2ND SUB	3RD SUB	4TH SUB	5TH SUBMISSION	6TH SUBMISSION

PROJECT NO. _____

DATE: 12-02-2014

PROJECT COORDINATOR:
 SOHAILA S SHEKIB

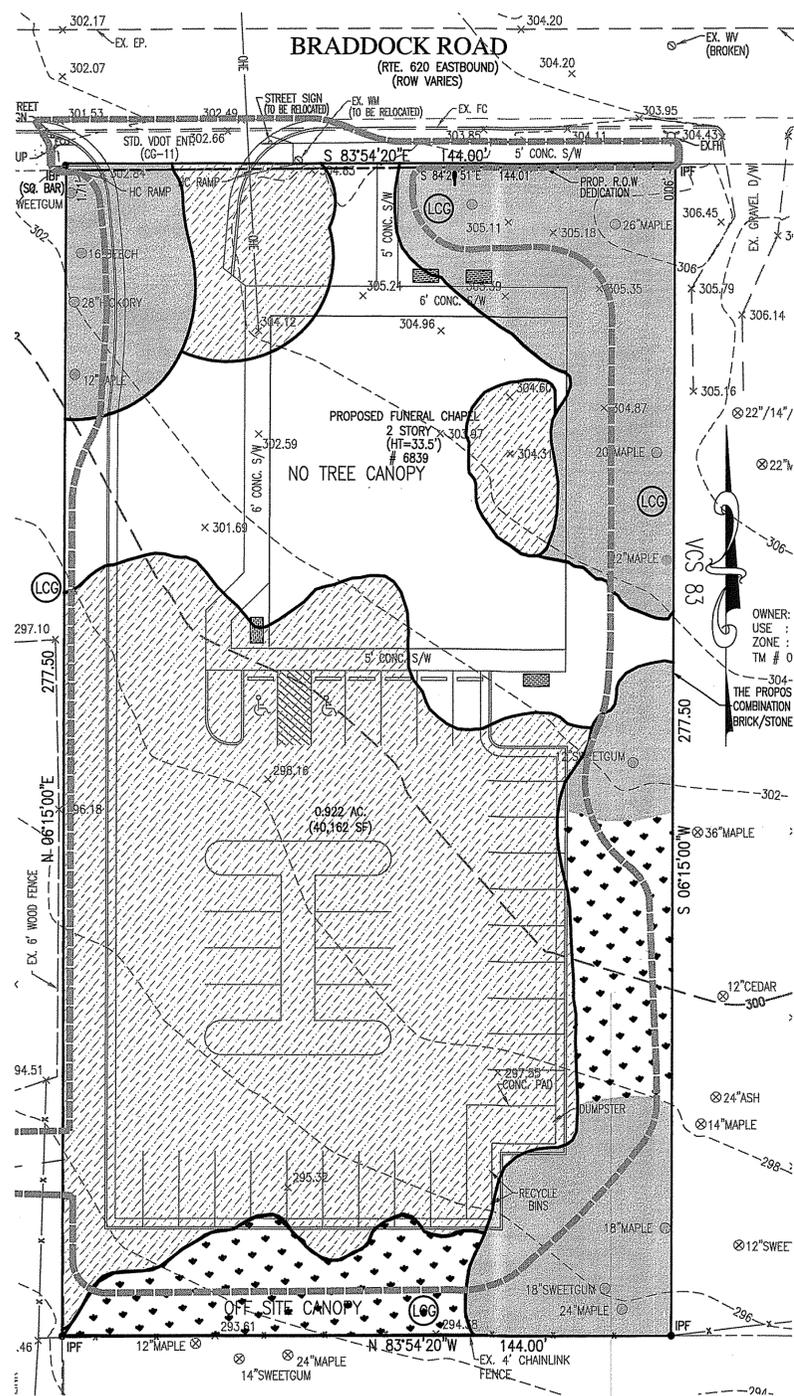
DESIGN DRAWN CHKD
 SSS WS/MS TM

SCALE: H: 1" = 20'
 V: N/A

JOB No. VA-13-110

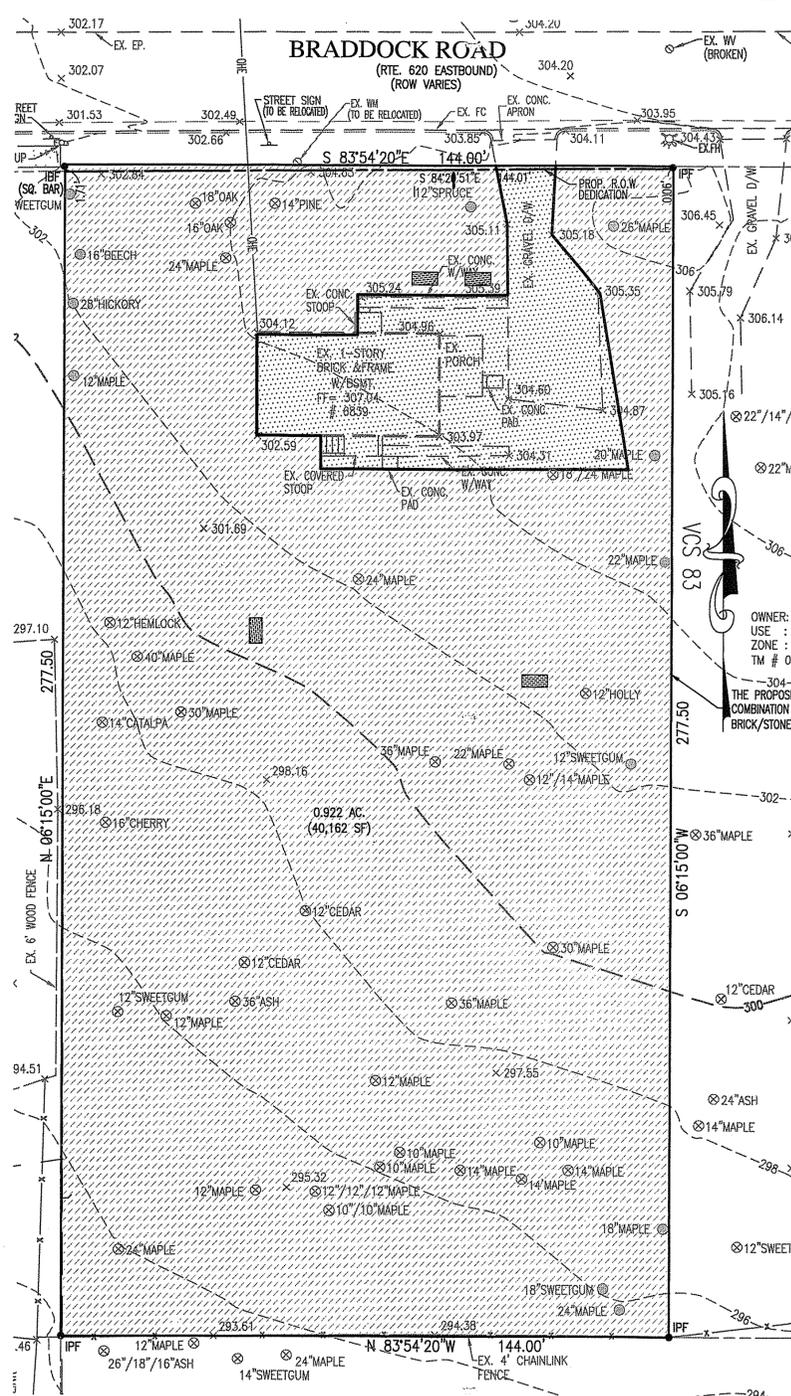
FILE No. 106-SE-SCG

SHEET 7 OF 10



10 YEAR CANOPY EXHIBIT
SCALE: 1" = 20'

10 Year Canopy Exhibit Key		
	Tree Canopy to be preserved	6,812 sq. ft.
	Tree Canopy to be removed	15,600 sq. ft.
	Off-site Canopy	N/A
Total		22,412 sq. ft.



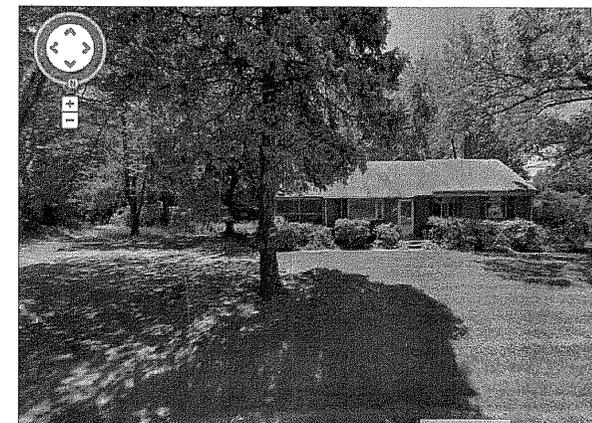
EXISTING VEGETATION MAP
SCALE 1"=20'

Existing Vegetation Exhibit Key							
Key	Number	Primary Species	Successional Stage	Condition	Area (sq.ft.)	Comments	PFM Chapter 12 Description
	(6) Developed Land	n/a	n/a	n/a	1,629.00	Areas of constructed features including buildings, parking and roadways	
	(9) Landscaped Tree Canopy	red oak, red maple, willow oak, sweetgum, silver maple, black cherry, American ash,	n/a	poor-fair	38,633.32	Areas appears to have been maintained turf that has gone fallow. Site is heavily disturbed. Is no area that could be considered forested. Many of the existing trees are in significant decline, especially the silver maple. The area contains significant amounts of English ivy, Japanese honeysuckle, bush honeysuckle, multi-flora rose, and Asian wysteria.	tree canopy established through the planting of nursery stock trees that is not part of a natural forest community
					Total	40,162.32	

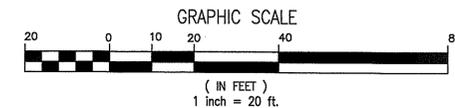
EVM prepared by Donald E. Zimar, RCA #446, Certified Arborist MA-0039



AERIAL VIEW
(FROM GOOGLE EARTH)



FRONT OF HOUSE
(FROM GOOGLE EARTH)



THIS PLAN WAS PREPARED BY DONALD E. ZIMAR, MARYLAND REGISTERED FORESTER #571, ISA CERTIFIED ARBORIST MA-0039, ISA CERTIFIED TREE RISK ASSESSOR #758,

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EVM AND 10 YEAR CANOPY
6839 BRADDOCK ROAD
PARCEL 34

FAIRFAX COUNTY, VIRGINIA
MASON DISTRICT

PLAN STATUS	DATE	DESCRIPTION
	6-14-14	OC SUB
	8-12-14	1ST SUB
	8-13-14	2ND SUB
	8-12-14	3 RD. SUB.
	8-23-14	4 TH. SUB.
	10-8-14	5TH SUBMISSION
	12-2-14	6TH SUBMISSION

PROJECT NO

ANTHONY MORSE
No.12,316
12/02/14
PROFESSIONAL ENGINEER

DATE : 12-02-2014
PROJECT COORDINATOR:
SOHAILA S SHEKIB
DESIGN SSS
DRAWN WS/MS
CHKD TM
SCALE H: 1" = 20'
V: N/A
JOB No. VA-13-110
FILE No. 106-SE-SCG
SHEET 8 OF 10

Invasive Species Management Plan: "An invasive species management plan shall be submitted as part of the first and all subsequent site plan submissions detailing how the invasive and undesirable vegetation will be removed and managed. The detailed invasive species management plan shall include the following information:

- Identify targeted undesirable and invasive plant species to be suppressed and managed.
- Identify targeted area of undesirable and invasive plant management plan, which shall be clearly identified on the landscape or tree preservation plan.
- Recommended government and industry method(s) of management, i.e. hand removal, mechanical equipment, chemical control, other. Identify potential impacts of recommended method(s) on surrounding trees and vegetation not targeted for suppression/management and identify how these trees and vegetation will be protected (for example, if mechanical equipment is proposed in save area, what will be the impacts to trees identified for preservation and how will these impacts be reduced).
- Identify how targeted species will be disposed.
- If chemical control is recommended, treatments shall be performed by or under direct supervision of a Virginia Certified Pesticide Applicator or Registered Technician and under the general supervision of Project Arborist).
- Provide information regarding timing of treatments, (hand removal, mechanical equipment or chemical treatments) when will treatments begin and end during a season and proposed frequency of treatments per season.
- Identify potential areas of reforestation and provide recommendation
- Monthly monitoring reports provided to UFMD and SDID staff.
- Duration of management program; until Bond release or release of Conservation Deposit or prior to release if targeted plant(s) appear to be eliminated based on documentation provided by Project Arborist and an inspection by UFMD staff."

Tree Preservation: "The applicant shall submit a Tree Preservation Plan and Narrative as part of the first and all subsequent site plan submissions. The preservation plan and narrative shall be prepared by a Certified Arborist or a Registered Consulting Arborist, and shall be subject to the review and approval of UFMD.

The tree preservation plan shall include a tree inventory that identifies the location, species, critical root zone, size, crown spread and condition analysis percentage rating for all individual trees located within the tree save area living or dead with trunks 10 inches in diameter and greater (measured at 4 1/2 -feet from the base of the trunk or as otherwise allowed in the latest edition of the Guide for Plant Appraisal published by the International Society of Arboriculture) and 25 feet outside of the proposed limits of clearing, in the undisturbed area and within 10 feet of the proposed limits of clearing in the area to be disturbed. All trees inventoried shall be tagged in the field so they can be easily identified. If permission is not allowed from the offsite property owner to tag trees, it shall be noted on the tree preservation plan by providing written documentation between the applicant and the offsite property owner. The tree preservation plan shall provide for the preservation of those areas shown for tree preservation, those areas outside of the limits of disturbance shown on the SE Plat and those additional areas in which trees can be preserved as a result of final engineering. The tree preservation plan and narrative shall include all items specified in PFM 12-0507 and 12-0509. Specific tree preservation activities that will maximize the survivability of any tree identified to be preserved, such as: crown pruning, root pruning, mulching, fertilization, compost tea, Cambistat, radial mulching, supplemental watering, and prophylactic borer treatments, shall be included in the plan."

Tree Preservation Walk-Through: "The Applicant shall retain the services of a Certified Arborist or Registered Consulting Arborist, and shall have the limits of clearing and grading marked with a continuous line of flagging prior to the walk-through meeting. During the tree-preservation walk-through meeting, the Applicant's Certified Arborist or Registered Consulting Arborist shall walk the limits of clearing and grading with an UFM, representative to determine where adjustments to the clearing limits can be made to increase the area of tree preservation and/or to increase the survivability of trees at the edge of the limits of clearing and grading, and such adjustment shall be implemented. Trees that are identified as dead or dying may be removed as part of the clearing operation. Any tree that is so designated shall be removed using a chain saw and such removal shall be accomplished in a manner that avoids damage to surrounding trees and associated understory vegetation. If a stump must be removed, this shall be done using a stump-grinding machine in a manner causing as little disturbance as possible to adjacent trees and associated understory vegetation and soil conditions."

Limits of Clearing and Grading: "The Applicant shall conform strictly to the limits of clearing and grading as shown on the SE Plat, subject to allowances specified in these proffered conditions and for the installation of utilities and/or trails as determined necessary by the Director of DPWES, as described herein. If it is determined necessary to install utilities and/or trails in areas protected by the limits of clearing and grading as shown on the SE Plat, they shall be located in the least disruptive manner necessary as determined by the UFMD, DPWES. A replanting plan shall be developed and implemented, subject to approval by the UFMD, DPWES, for any areas protected by the limits of clearing and grading that must be disturbed for such trails or utilities."

Tree Preservation Fencing: "All trees shown to be preserved on the tree preservation plan shall be protected by tree protection fence. Tree protection fencing in the form of four (4) foot high, fourteen (14) gauge welded wire attached to six (6) foot steel posts driven eighteen (18) inches into the ground and placed no further than ten (10) feet apart or, super silt fence to the extent that required trenching for super silt fence does not sever or wound compression roots which can lead to structural failure and/or uprooting of trees shall be erected at the limits of clearing and grading as shown on the demolition, and phase I & II erosion and sediment control sheets, as may be modified by the "Root Pruning" condition below.

All tree protection fencing shall be installed after the tree preservation walk-through meeting but prior to any clearing and grading activities, including the demolition of any existing structures. Three (3) days prior to the commencement of any clearing, grading or demolition activities, but subsequent to the installation of the tree protection devices, the UFMD, DPWES, shall be notified and given the opportunity to inspect the site to ensure that all tree protection devices have been correctly installed. If it is determined that the fencing has not been installed correctly, no grading or construction activities shall occur until the fencing is installed correctly, as determined by the UFMD, DPWES."

Root Pruning: "The Applicant shall root prune, as needed to comply with the tree preservation requirements of these development conditions. All treatments shall be clearly identified, labeled, and detailed on the erosion and sediment control sheets of the site plan submission. The details for these treatments shall be reviewed and approved by the UFMD, DPWES, accomplished in a manner that protects affected and adjacent vegetation to be preserved, and may include, but not be limited to the following:

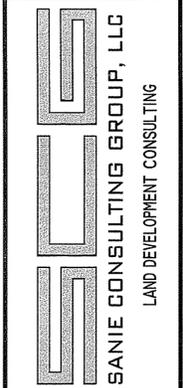
- Root pruning shall be done with a trencher or vibratory plow to a depth of 18 - 24 inches.
- Root pruning shall take place prior to any clearing and grading, or demolition of structures.
- Root pruning shall be conducted with the supervision of a Certified Arborist or Registered Consulting Arborist.
- An UFMD, DPWES, representative shall be informed when all root pruning and tree protection fence installation is complete."

Site Monitoring: "During any clearing or tree/vegetation on the Applicant Property, a representative of the Applicant shall be present to monitor the process and ensure that the activities are conducted as conditioned and as approved by the UFMD. The Applicant shall retain the services of a Certified Arborist or Registered Consulting Arborist to monitor all construction and demolition work and tree preservation efforts in order to ensure conformance with all tree preservation development conditions, and UFMD approvals. The monitoring schedule shall be described and detailed in the Landscaping and Tree Preservation Plan, and reviewed and approved by the UFMD."

Landscape Pre-Inspection Meeting: "Prior to installation of plants to meet requirements of the approved landscape plan, the Contractor/Developer shall coordinate a pre-installation meeting on site with the landscape contractor and a representative of the County Urban Forest Management Division (UFMD). Any proposed changes to the location of planting, size of trees/shrubs, and any proposed plant substitutions for species specified on the approved plan shall be reviewed at this time and must be approved prior to planting. The installation of plants not specified on the approved plan, and not previously approved by UFMD, may require submission of a revision to the landscape plan or removal and replacement with approved material.

Field location of planting material, when required by the approved plan, shall be reviewed at the pre-installation meeting. The Landscape Contractor shall stake proposed individual planting locations in consultation with the Contractor/Developer prior to the pre-installation meeting, for review by UFMD staff. Stakes shall be adjusted, as needed, during the course of the meeting as determined by UFMD staff based on discussion with the Contractor/Developer and the Landscape Contractor."

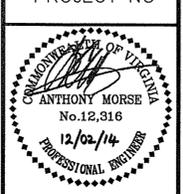
Native Species Landscaping: "All landscaping provided shall be native to the middle Atlantic region to the extent feasible and non-invasive as determined by UFMD. In addition, the quality and quantity of landscaping provided shall be in substantial conformance with the SE Plat."



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TREE PRESERVATION NOTES
6839 BRADDOCK ROAD
PARCEL 34
MASON DISTRICT
FAIRFAX COUNTY, VIRGINIA

PLAN STATUS	DATE	DESCRIPTION
1. G-14	11-6-14	GC SUB.
2. 1-14	11-12-14	1ST SUB.
3. 4-14	11-14-14	2ND SUB.
4. 6-14	12-12-14	3 RD. SUB.
5. 9-14	12-23-14	4 TH. SUB.
6. 12-14	12-23-14	5TH SUBMISSION
7. 12-14	12-2-14	6TH SUBMISSION



DATE : 12-02-2014	
PROJECT COORDINATOR: SOHAILA S SHEKIB	
DESIGN SSS	DRAWN WS/MS
CHKD TM	
SCALE H: N/A V: N/A	
JOB No. VA-13-110	
FILE No. 106-SE-SCG	
SHEET 9 OF 10	

ADEQUATE OUTFALL NARRATIVE:

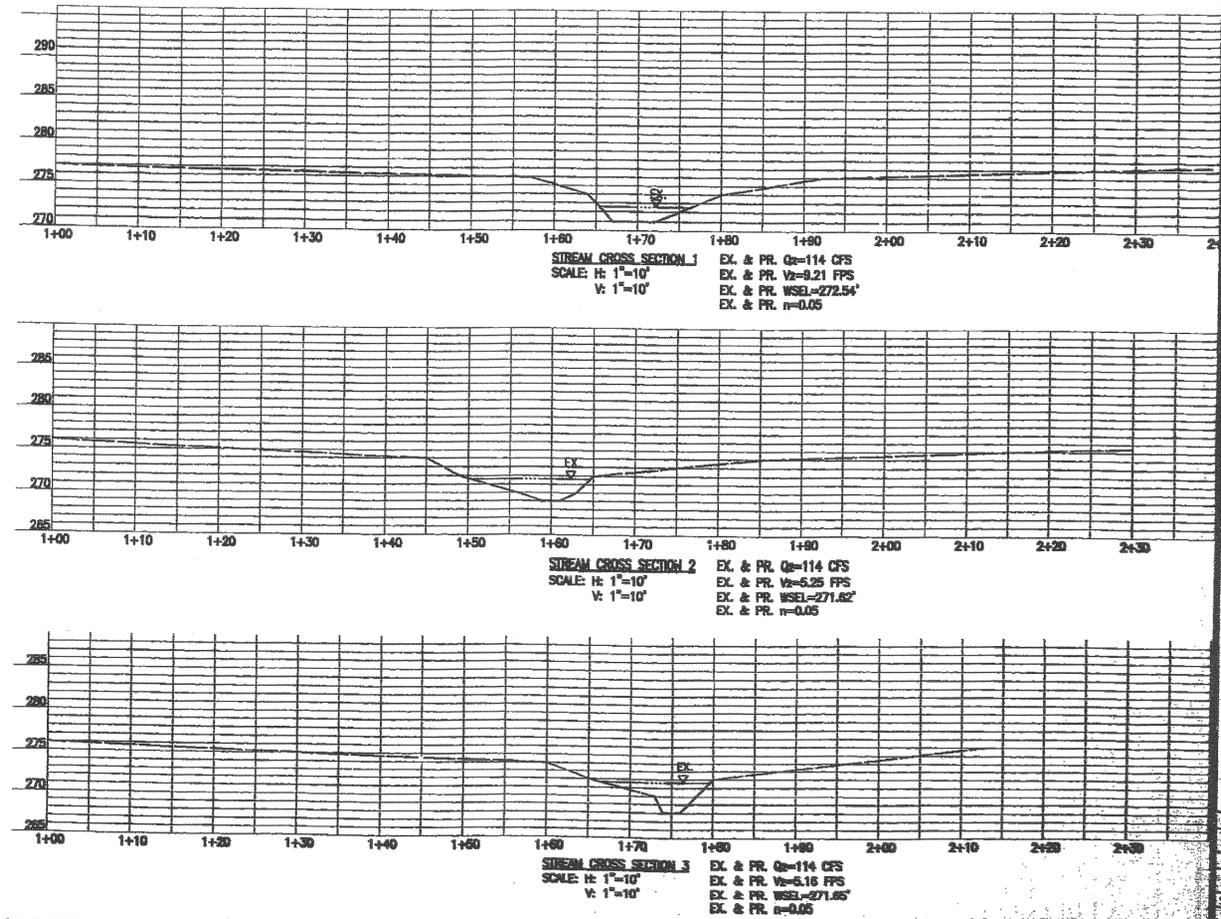
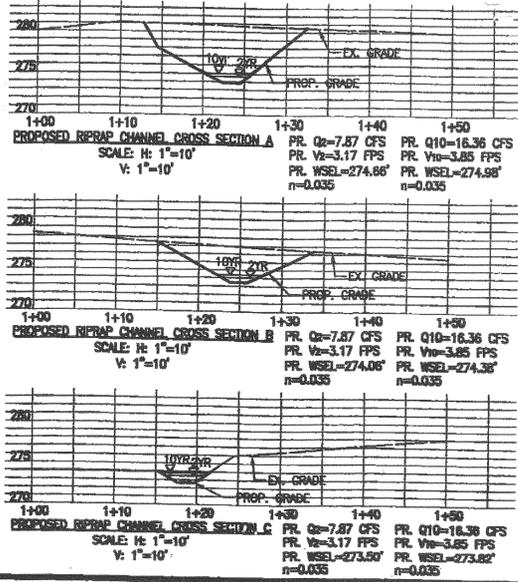
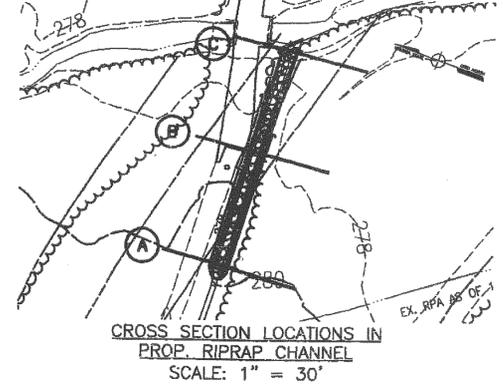
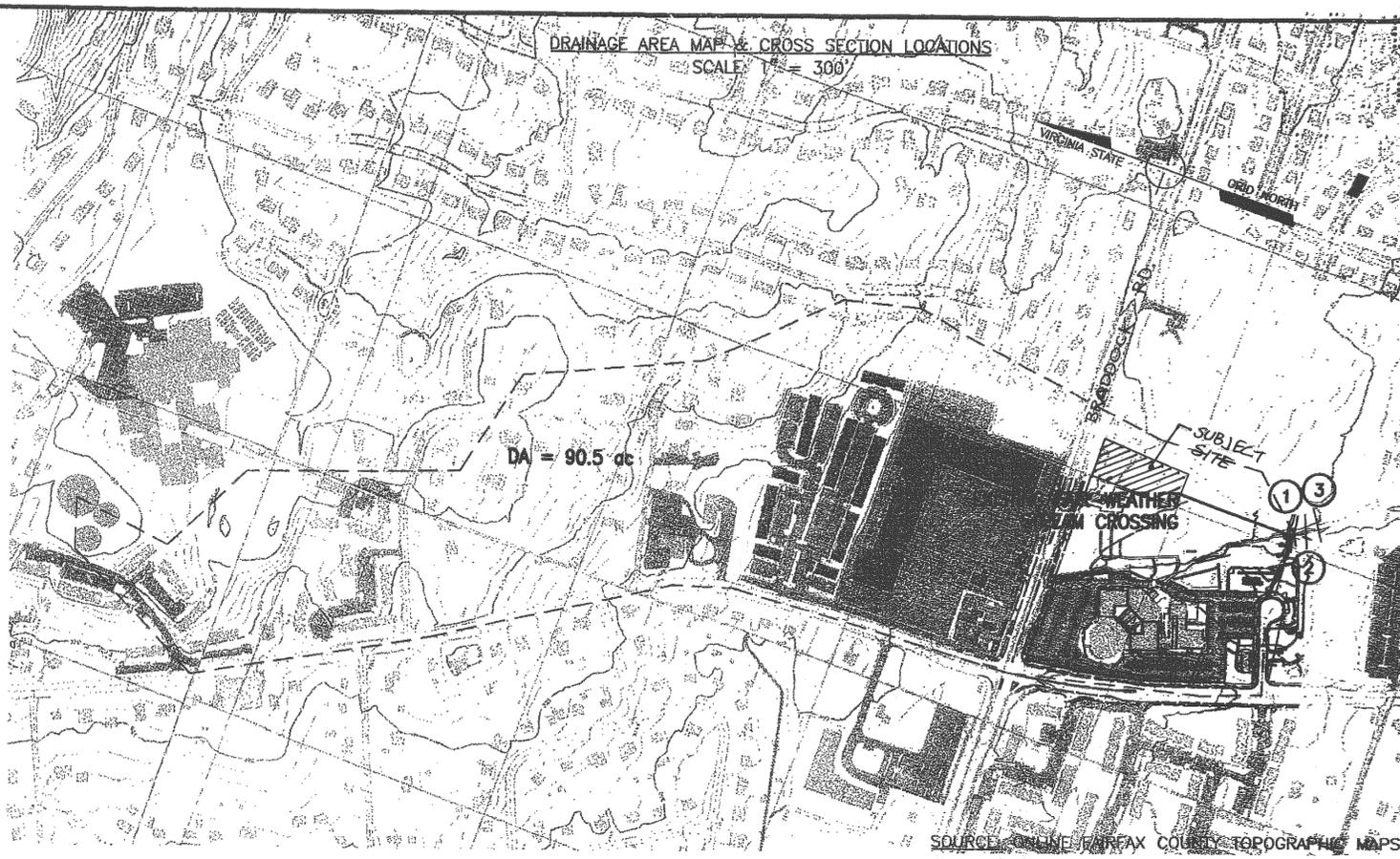
ELEMENT	NARRATIVE
GENERAL	ONSITE SWM MEASURES CONSISTING OF UNDERGROUND STORAGE PIPES ARE PROVIDED FOR THE PROPOSED PROJECT. THE UNDERGROUND PIPES PROVIDE STORAGE OF RUNOFF FROM THE PROPOSED PARKING LOT ONLY (THERE IS AN EXISTING DETENTION POND ELSEWHERE ON SITE THAT PROVIDES SWM FOR THE REST OF THE SITE). WATER FROM THE UNDERGROUND SWM FACILITY OUTFALLS INTO A PROPOSED RIPRAP CHANNEL ON-SITE WHICH FLOWS INTO AN EXISTING UNNAMED STREAM OFF-SITE. THREE (3) CROSS-SECTIONS IN THIS STREAM, LABELED AS 1, 2, AND 3, WERE ANALYZED FOR CAPACITY AND EROSION VELOCITY. CROSS-SECTION 1 IS JUST DOWNSTREAM OF THE EXISTING FAIR-WEATHER STREAM CROSSING, AND CROSS-SECTIONS 2 AND 3 ARE LOCATED 50' DOWNSTREAM, RESPECTIVELY. ADDITIONALLY, THREE (3) CROSS SECTIONS WERE ANALYZED IN THE PROPOSED CHANNEL, LABELED AS A, B, AND C.
LIMIT OF STUDY	THE LIMIT OF STUDY IS SHOWN ON THE DRAINAGE AREA MAP ON THIS SHEET. THE DRAINAGE AREA AT THE FIRST CROSS SECTION TAKEN OFFSITE IS 90.5 ACRES, WHICH EXCEEDS 100 TIMES THE DISTURBED AREA WITH THIS PLAN (0.84 AC).
DRAINAGE AREA	THE TOTAL DRAINAGE AREA TO THE SITE OUTFALL (JUST DOWNSTREAM OF THE EXISTING FAIR WEATHER STREAM CROSSING) IS 90.5 ACRES. THE TOTAL DEVELOPMENT SITE AREA IS 0.84 ACRES.
OUTFALL DISCHARGE AMOUNT	PROPOSED TWO-YEAR DISCHARGE FROM THE PROPOSED SWM FACILITY IS 0.87 CFS, WHILE THE PRE-DEVELOPMENT DISCHARGE IS 1.12 CFS. SINCE THE PROPOSED DISCHARGE IS LESS THAN PRE-DEVELOPED, THERE IS NO ADVERSE IMPACT.
STREAM CROSS SECTION	THE SMALL STREAM IS APPROXIMATELY 5-10 FEET IN WIDTH AT THE BOTTOM. SIDE SLOPES HAVE BEEN ERODED.
PERMISSIBLE STREAM VELOCITY	THE STREAM BOTTOM IS MOSTLY SILT/SEDIMENT WITH SOME FINE GRAVEL, A FEW FALLEN TREES, AND VERY LITTLE VEGETATION. FROM THE COUNTY SOILS MAPS, THE SOIL IN THE AREA OF THE STREAM IS A LOAM TO SILTY LOAM. THE RESULTING MANNING'S 'n' VALUE IS 0.05. THE RESULTING PERMISSIBLE CHANNEL VELOCITY RANGES FROM 2.0 FPS TO 2.5 FPS ACCORDING TO TABLE 6.19 OF THE PFM.
STREAM VELOCITY	EXISTING AVERAGE VELOCITIES RANGE FROM 5.10 - 9.21 FPS. SINCE THESE VELOCITIES ARE HIGHER THAN WHAT IS PERMISSIBLE, THE STREAM IS NOT CONSIDERED ADEQUATE FOR 2-YEAR VELOCITIES. (SEE COMPUTATIONS ON SHEET 9A.)
STREAM CAPACITY	EXISTING STREAM CAPACITIES FOR THE 2-YEAR STORM RANGE FROM 150 - 420 CFS. THESE VALUES ARE BELOW THE 2-YEAR DISCHARGE OF 114 CFS; THEREFORE, THE STREAM IS CONSIDERED ADEQUATE FOR CAPACITY. (SEE COMPUTATIONS ON SHEET 9A.)
PROPOSED RIPRAP OUTFALL CHANNEL ON SITE	A RIPRAP OUTFALL CHANNEL IS PROPOSED ON-SITE. THE EXISTING OUTFALL IS AN 18" REINFORCED CONCRETE PIPE (RCP) THAT DISCHARGES INTO THE STREAM. THE LOWER END OF THE EXISTING 18" PIPE IS UNDERSIZED UNDER THE PROPOSED DEVELOPMENT SCENARIO DUE TO THE INTRODUCTION OF AN INLET PICKING UP RUNOFF THAT FLOWED DIRECTLY TO THE OPEN CHANNEL AS SURFACE FLOW UNDER THE EXISTING CONDITIONS. AS SUCH, THE LOWER END OF THE EXISTING 18" PIPE WILL BE REPLACED WITH A 21" RCP PIPE UNDER THE PROPOSED DEVELOPMENT SCHEME. THIS PIPE WILL OUTFALL ON-SITE TO A PROPOSED RIPRAP CHANNEL WHICH WAS DESIGNED FOR THE 10-YEAR FLOW. THE 2-YEAR Q=7.87 CFS, AND V=3.17 FPS FOR THIS CHANNEL.
EASEMENT REQMT'S	NO EASEMENTS ARE REQUIRED SINCE NO OFF-SITE IMPROVEMENTS ARE PROPOSED.
DOWNSTREAM IMPACT	THERE ARE NO DOWNSTREAM IMPACTS.
FINAL OPINION	PER SECTION 6-0203.6B OF THE PFM, THIS OUTFALL ANALYSIS WAS PERFORMED TO A POINT AT WHICH THE TOTAL DRAINAGE AREA IS AT LEAST 100 TIMES GREATER THAN THE AREA OF THE DEVELOPMENT SITE. IN THIS CASE, THE AREA OF DEVELOPMENT IS 0.84 ACRES AND THE AREA DRAINING TO THE OUTFALL IS 90.5 ACRES (OR 141 TIMES), THEREBY SATISFYING THIS CONDITION. HOWEVER, THE STREAM IS CONSIDERED INADEQUATE DUE TO EROSION VELOCITIES, BUT BECAUSE WE HAVE PROVIDED AN ADEQUATE OUTFALL CHANNEL ON-SITE AND THERE ARE NO ADVERSE IMPACTS TO THE STREAM, IT IS THE ENGINEER'S OPINION THAT THE OUTFALL IS ADEQUATE.

FOR INFORMATION ONLY!!

NO.	DESCRIPTION	APPROVED	DATE

REVISION APPROVED BY
DIVISION OF DESIGN REVIEW

- GENERAL NOTES REGARDING OUTFALL CONSTRUCTION:**
- INDIGENOUS VEGETATION SHALL BE PRESERVED TO THE MAXIMUM EXTENT PRACTICABLE.
 - NO MORE LAND SHALL BE DISTURBED THAN IS NECESSARY TO PROVIDE FOR THE PROPOSED UTILITY CONSTRUCTION.
 - THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH CHAPTER 104 OF THE CODE OF THE COUNTY OF FAIRFAX, VIRGINIA BECAUSE THERE ARE MORE THAN 2,500 SF OF DISTURBED AREA PROPOSED WITH THIS PLAN.



REVISIONS:
2ND SUBMISSION

SURVEY: WHGA
DESIGN: J. GIBBS
DRAWN: J. GIBBS
CHECKED: L. MILLER

ENGINEERS - SURVEYORS - LAND PLANNERS - LANDSCAPE ARCHITECTS
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DATE: NOVEMBER 2004
SCALE: HORIZ: VARIES
VERT: VARIES
SEAL: [Professional Engineer Seal for Laura F. Miller, No. 35537, Exp. 12/31/06]

PROJECT: ADEQUATE OUTFALL ANALYSIS
IMMANUEL BIBLE CHURCH
MASON DISTRICT
FAIRFAX COUNTY, VIRGINIA

JOB: 2045-0101
CADD: 0101510000
SHEET: 9 OF 24
SCG SHEET 10 OF 10
12/02/2014